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NEMOURIA

Occasional Papers of the Delaware Museum of Natural History

NUMBER 4 DECEMBER 15, 1971

TAXONOMIC AND DISTRIBUTIONAL NOTES ON PHILIPPINE BIRDS

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INTRODUCTION

Ever since my visit to central Luzon in 1956, I have been studying the taxonomy and distribution of Philippine birds. Although this research has already resulted in the publication of some 40 papers, a large backlog of completed but unpublished notes remained in my files. The imminence of publication of John E. duPont's book *Philippine Birds* made it advisable to place these data on record. Most of the information in the present paper was made available to Dr. duPont during the writing of his book, including the new races to be described herein, although the decision as to whether to accept my findings for incorporation into *Philippine Birds* was, of course, his.

The notes in this paper include taxonomic revisions, new locality records, corrections of errors (some of which have been of long standing) in the literature of Philippine birds, and, in a few cases, information on plumages and molts. I hope eventually to publish a more extensive paper on plumages of Philippine birds.

All measurements of specimens in this paper are in millimeters. Wings were measured flat against the ruler. Bill measurements are various, and the method of measuring is specified in each case.

Acknowledgments

Specimens on which these studies were based are primarily those in the American Museum of Natural History and Carnegie Museum. Comparative material from many other museums has been used, either *in situ* or on loan, through the courtesy of a series of curators and directors; I list institutions here rather than individuals, as there has been much turnover of personnel since I began my work on Philippine birds. The following abbreviations are given for all collections I have utilized, even though these may not appear in the present paper.

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AMNH	American Museum of Natural History
ANSP	Academy of Natural Sciences of Philadelphia
BMNH	British Museum (Natural History)
CAS	California Academy of Sciences
CM	Carnegie Museum
CU	Cornell University
DMNH	Delaware Museum of Natural History
FMNH	Field Museum of Natural History
GMS	Collection of George Miksch Sutton
MCZ	Museum of Comparative Zoology, Harvard University
MMNH	James Ford Bell Museum, University of Minnesota
MVZ	Museum of Vertebrate Zoology, University of California
PNM	Philippine National Museum
ROM	Royal Ontario Museum
SDR	Collection of S. Dillon Ripley
UMMZ	Museum of Zoology, University of Michigan
USNM	United States National Museum of Natural History
YPM	Peabody Museum of Natural History, Yale University

I am especially indebted to certain individuals for assistance in obtaining specimens and information; some of the most helpful include the late H. G. Deignan; John E. duPont; I. C. J. Galbraith; the late E. Thomas Gilliard; Canuto G. Manuel; Austin L. Rand; S. Dillon Ripley; Finn Salomonsen; John Weske; Richard L. Zusi; and, above all, Dean Amadon, who made the facilities of the AMNH and his own counsel freely available to me during my innumerable visits to New York. Expenses for some of those visits were met through a grant from the Frank M. Chapman Memorial Fund of the AMNH. My field work in Luzon in 1956 was part of a project of the Graduate School of Public Health, University of Pittsburgh, under the sponsorship of the Commission on Viral Infections, Armed Forces Epidemiological Board, supported in part by the Office of the Surgeon General, U.S. Department of the Army. I am indebted to Dr. C. G. Manuel and Mr. Telesforo Oane for help in the field.

SPECIES ACCOUNTS

Butorides striatus **(Linnaeus, 1766)**

Current literature on Philippine birds lists two subspecies of this species: a resident form, *carcinophilus* Oberholser, 1924, and a winter visitor from northeastern Asia, *amurensis* Schrenck, 1860. Recognition of Oberholser's name for the resident Philippine population dates from Mayr (1943:11–12). I have examined essentially the same material in the AMNH of this species from southeastern Asia as was used by Mayr, supplemented by a much larger series of Philippine specimens. I fully agree with Ripley (1969:102) that separation of *carcinophilus* from *B. s. javanicus* (Horsfield, 1821) is not warranted.

Ripley (*op. cit.*), in discussing Asian migratory populations, stated that *amurensis* migrates "south in winter to southern China, north Thailand (uncommon) and Taiwan." In this paper he did not mention the Philippines as part of the winter range of any migratory race. Earlier, however, he had listed Philippine records for *amurensis* as including the islands of Calayan, Cebu, Mindoro, Negros, and Samar (Ripley and Rabor, 1958:20). He overlooked the Luzon record published by Gilliard (1950:474); I have reexamined Gilliard's specimen and confirm its identification. In addition, I have examined other Luzon specimens of *amurensis* as follows:

ad. ♂, Baguio, Mountain Prov., January 1947, coll. John B. Thompson (GMS). Wing 200; exposed culmen 61.5.
im. ♂, Baguio, Mountain Prov., December 17, 1947, coll. John B. Thompson (GMS). Wing 203; exposed culmen 65.
im. ♂, Dalton Pass, Nueva Vizcaya Prov., November 19, 1958, coll. A. Concepcion (CM). Wing 202; exposed culmen 66.

In addition to its greater size, *amurensis* may be distinguished from resident Philippine birds by its decidedly whiter face, especially in the area below the eye.

Pernis apivorus philippensis **Mayr, 1939**

This species does not appear to have been recorded from the island of Negros. A specimen now in the CAS (formerly in the Stanford University Museum) was collected at 3500 feet on the northwest slope of Mount Dayungan, Negros, April 8, 1958.

I have no strong opinions about species limits in this genus; so I follow Brown and Amadon (1968:221) in merging the Asian *ptilorhynchus* group with *apivorus.*

Microhierax erythrogonys **(Vigors, 1831)**

Most recent writers on Philippine birds have denied recognition to the subspecies *M. e. meridionalis* Ogilvie-Grant, 1897. Rand and Rabor (1960:377) showed that none of the color characters that have been invoked for subspecific separation have any geographic correlation. Specimens I have measured, however, fully bear out Ogilvie-Grant's contention that Luzon birds are smaller than those from farther south in the Philippines. Rand and Rabor admitted that size in this species increases from north to south, but stated that "the difference does not seem consistent enough to warrant recognizing two races." There is, indeed, some overlap in wing measurements, but I suspect that the very few real discrepancies are based on missexed specimens, a constant hazard in dealing with species having no sexual color dimorphism. When other measurements show a high degree of consistency, the taxonomist is justified in excluding specimens whose measurements suggest missexing. This would be true of Rand and Rabor's alleged female from Samar with a wing of 109 and an alleged female in CM from Samar with a wing of 110. With these two specimens removed, my wing measurements of specimens in AMNH, YPM, and CM accord well with the FMNH material. Combining my measurements with those of Rand and Rabor, we arrive at the following ranges for wing length:

18 Luzon ♂♂	100–110.5	18 non-Luzon ♂♂	109–120
8 Luzon ♀♀	106–117	12 non-Luzon ♀♀	114–125

The larger size of the bills of the southern birds is more striking than the wing-length difference. It is difficult to express in linear measurements the differences in such nearly globular objects as *Microhierax* bills, but the following figures will show the trends:

	CULMEN FROM CERE	WIDTH AT BASE
16 Luzon ♂♂	10–11.5	5.5–8
12 non-Luzon ♂♂	12–13.5	7.5–10
4 Luzon ♀♀	11.5–12	7–9.5
3 non-Luzon ♀♀	13–14	10.5–11

On the basis of these figures, I believe that *M. e. meridionalis* can be recognized for the birds of the central and southern Philippines. I have measured only one Mindoro specimen; its measurements (♂) place it with *M. e. erythrogonys*: wing 107, culmen 11.5, width of bill 7.

Rallus philippensis Linnaeus, 1766

This species has been reported in the Philippines only from Batan, Luzon, and Mindoro (Parkes, 1949). Rand and Rabor (1960) do not mention it in their list of Samar birds. AMNH 348328 is a juvenile female of this species taken August 7, 1948, by A. P. Castro at Loquilocon, Samar. It and AMNH 10457, "Philippines," are remarkable in being very much paler than adults from the Philippines, with the underparts heavily washed with buff. I have been able to compare juveniles with adults of the subspecies *R. p. chandleri, andrewsi, meyeri, australis, assimilis, goodsoni,* and *forsteri.* In none is the contrast between the color of adults and juveniles so marked as in *R. p. philippensis.*

Rallus torquatus Linnaeus, 1766

Gilliard (1949a) divided Philippine populations of this species into three races. He considered the restricted type locality of *torquatus* to be the vicinity of Manila and considered birds from "central and northern Luzon" to represent the nominate race. He then described *R. t. quisumbingi* from Camarines Province, southern Luzon, and Marinduque; allotted one specimen from Mindoro to *torquatus*; and described *R. t. sanfordi* from the Zamboanga Peninsula of Mindanao. He made no attempt to allot names to the birds of other islands, although this species is widespread in the Philippines. Gilliard based *quisumbingi* on smaller size, but he also mentioned that all but one of the specimens he assigned to this new race had the outer edges of remiges, rump, and tail brighter, more brownish, and less olive. I have examined the same specimens, and this rufescence appears to me to be discoloration. DeSchauensee (1957) and deSchauensee and duPont (1959), on the basis of six specimens from various Luzon localities, doubted the validity of *quisumbingi* as based on measurements. A longer series that I have measured, together with published measurements, indicates that the smallest examples of *Rallus torquatus* in the Philippines do, indeed, occur in southern Luzon, but that the species as a whole is so variable in size that no clear-cut separation can be made. I therefore regard *quisumbingi* as a synonym of *torquatus.* Similarly, although the longest-billed individual examined did, indeed, come from Zamboanga, thus matching Gilliard's diagnosis of *sanfordi,* other specimens from the same area can be matched by birds from other islands. Gilliard also used for a character for *sanfordi* "black eye-stripe without a white dorsal emargination." This character is much too variable to be of any taxonomic use. The type specimen of *sanfordi* actually has a trace of white on one side. Two out of five specimens from northern Luzon lack any trace of white, and the other three have only a little. Of four adults in Gilliard's own Bataan series, two have a well-marked white emargination; whereas in the other two it is obsolete.

In reviewing this species, I found one character that has not been previously reported. Specimens from Mindanao, Bohol, Leyte, and Sibuyan tend to have the brown pectoral band reduced and interrupted when compared with Luzon birds as a group; but this, too, is not sufficiently consistent to warrant nomenclatorial recognition. I prefer to call all Philippine populations of this species *Rallus t. torquatus.*

Amaurornis olivaceus (Meyen, 1834)

Rand and Rabor (1960:238), in discussing the phenomenon of large bills of island populations of birds, mentioned only one endemic subspecies from the island of Siquijor (*Pachycephala philippinensis siquijorensis*) as being characterized by a long bill, although tendencies toward long bills were found also in "*Niltava*" (=*Cyornis*) *rufigaster* and *Rallus torquatus*; in fact, they even identified their specimen of the latter with *R. t.* "*sanfordi*" Gilliard, based on its bill measurement of 38, although Gilliard had given measurements of 35–39 for *R. t. torquatus* and 43.5 for "*sanfordi*."

In one species not represented in Rand and Rabor's Siquijor collection, this "small island effect" (if that is what it is) is apparent. The small series of Siquijor specimens of *Amaurornis olivaceus* (1 AMNH, 4 USNM) indicates that the population from this small island is longer winged as well as longer billed than those from elsewhere in the Philippines. The series from other islands used for comparison included the following localities: Luzon (11), Cebu (1), Bohol (5), Samar (1), Negros (1), and Mindanao (3). Measurements are as follows:

	Wing	Culmen from feathers
4 Siquijor ♀♀	160–166 (164.5)	35.5–38 (37)
10 non-Siquijor ♀♀	148–162 (155.2)	31–35 (34.3)
1 Siquijor ♂	171	39
10 non-Siquijor ♂♂	166–178 (168.4)	36–39 (37.25)

It is interesting to note that the four Siquijor females are almost wholly separable from the non-Siquijor females. The single male would be almost as distinctively large were it not for a single male from Mindanao (FMNH 209648) with a wing of 178 and a culmen of 39; the next largest birds measured 172 and 38, respectively. It is doubtful that even with a larger series it would be worthwhile to recognize the Siquijor population nomenclatorially, but it is interesting as another possible case of the "small island effect."

Phapitreron leucotis (Temminck, 1823)

Peters (1937:24) and subsequent authors have generally accepted the subspecies *P. l. albifrons* McGregor, 1907, as distinct from *P. l. brevirostris* (Tweeddale, 1877). Peters assigned Samar, Bohol, and Siquijor to the range of *albifrons* and Leyte, Dinagat, and Mindanao to *brevirostris*. The chief distinguishing character of *albifrons* is alleged to be a whiter forehead. After I had examined the AMNH series of specimens from Bohol (7), Leyte (19), Samar (19), Siquijor (2), and Mindanao (8), I came to the conclusion that *albifrons* (type locality Bohol) was not worthy of recognition. The Bohol birds did *average* slightly whiter on the forehead than did those from Mindanao (type locality of *brevirostris*), but the numerically superior Samar and Leyte series shows virtually the entire range of difference in forehead color through individual variation. Later, I examined a much larger series from Bohol, Samar, and Mindanao in YPM and found that even the tendency toward whiter foreheads in Bohol specimens could not be upheld. In the YPM series the Bohol specimens averaged colder, grayer, and less rufous on the underparts; in this character the Samar birds (supposedly *albifrons*) were a better match for Mindanao *brevirostris.* Too many individuals would be unidentifiable to make the recognition of *albifrons* practical, and I regard this name as a synonym of *brevirostris.*

Phapitreron amethystina Bonaparte, 1855

Salomonsen (1952:345) correctly pointed out that *P. a. polillensis* Hachisuka, 1930, and *P. a. mindanaoensis* Manuel, 1936, were worthy of recognition and were not synonyms of *amethystina.* Some of the characters he utilized, however, do not hold up. Of the nominate race, Salomonsen had for comparison with Polillo specimens only two from Luzon and two from Samar. Comparing 10 Luzon specimens with three from Polillo, I find that the latter are not "darker brown on the underparts" as alleged by Salomonsen. On the other hand, the blackish brown dorsum of *polillensis* is a good character. Salomonsen showed that the larger size of Polillo specimens claimed by Hachisuka was only an average difference at best. In bill size, the three Polillo birds I examined were approached by only the largest of the Luzon series:

		CULMEN FROM BASE
Luzon	♂	24, 24.5, 25, 25, 27, 27
	♀	22, 24.5, 25, 25.5
Polillo	♂	27.5
	♀	26.5, 26.5

As for Mindanao birds, Salomonsen describes these as being "lighter greyish brown on the crown" than nominate *amethystina;* whereas Rand and Rabor (1960:284), making the same comparison, state that their Mindanao birds "differ in having the top of the head darker and clearer gray (not lighter gray with a brownish tinge)." I would not characterize the crown of *mindanaoensis* as being either "lighter" or "darker" than that of *amethystina,* but it is, as Rand and Rabor state, of a clearer and less brownish gray. The pale under tail-coverts of *mindanaoensis* mentioned by the latter authors is also a good character, but the vinaceous wash on throat and breast claimed by Rand and Rabor for Mindanao birds is variable and not to be relied on. The upperparts (except the crown) of *mindanaoensis* are little if at all different from *amethystina*; if there is any trend visible at all, it is in the direction of darkness in Mindanao birds, not lightness as stated by Salomonsen. The Davao Province specimens measured by Salomonsen seem to have been exceptionally small: he gave 138–145 as the wing length for *mindanaoensis* and 144–150 for *amethystina.* Specimens I have measured from Mts. Apo, Katanglad, and Malindang, Mindanao, have wings of 143, 143, 145, 146, 146.5, 147, 148, and 150; two Luzon birds now before me both measure 144. The validity of *mindanaoensis* must obviously rest on color rather than size, but the subspecies is adequately recognizable on the basis of the color of crown and under tail-coverts, as previously mentioned.

Macropygia phasianella tenuirostris Bonaparte, 1854

DeSchauensee (1957:6) called attention to the fact that his three Mindanao specimens of this species had shorter wings than his five from Luzon; he stated, "Whether this difference would hold in large series I do not know." I have measured specimens from the following islands: Luzon (8), Mindoro (2), Negros (3), Leyte (5), Mindanao (6), Basilan (4), Palawan (2), and Sulus (2). To my measurements can be added those of Rand and Rabor (1960) for Bohol and Mindanao, as well as those presented by deSchauensee. The results are as follows: Mindanao ♂—169, 172, 172, 174, 176, 176, 177; Mindanao ♀—170, 171, 171, 175. Luzon ♂—177, 177, 179, 179, 181, 182, 182, 185, 185, 190; Luzon ♀—174, 177, 180.

The measurements indicate that a separation between Mindanao and Luzon birds could, indeed, be made. Adding the measurements of birds from the intervening islands to those of Luzon would create very little additional overlap with Mindanao birds: ♂ 176–184, ♀ 173–179. On the other hand, the birds of Basilan, an island usually related to Mindanao in its avifauna, show tremendous variation for such a small series: ♂ 172, 179, 182; ♀ 167. The two birds examined from the Sulu Archipelago match Luzon birds in size: ♂ 182, ♀ 180. I believe, therefore, that unless other distinguishing characters can be found, the smaller size of Mindanao examples of this species should not be given nomenclatorial recognition.

***Prioniturus discurus* (Vieillot, 1822)**

Recent authors (Salomonsen, 1953; Rand and Rabor, 1960; deSchauensee and duPont, 1962) agree that the Samar, Leyte, and Bohol populations of this parrot are intermediate between nominate *discurus* of Mindanao and *whiteheadi* Salomonsen, 1953, of Negros. Salomonsen called these birds simply *discurus* ⇄ *whiteheadi;* the other authors, although discussing intermediacy, used the heading *whiteheadi,* thus by implication considering their specimens assignable nomenclatorially to that race. There are these points to be made:

1. The yellow of the underparts of Negros and Leyte birds described by deSchauensee and duPont has no geographic significance; the underparts are individually variable in color in the birds from all the islands under discussion.

2. My measurements bear out Salomonsen's statement that *whiteheadi* is larger than *discurus*. Our measurements indicate that the Mindanao series measured by deSchauensee and duPont consisted of rather small birds for that race (wing 144–150 vs. 143–155 of Salomonsen), that their Negros male was *very* small for *whiteheadi* (161; 158–170 Salomonsen; 162–171 Parkes), and that their Negros female was so small (153) as probably to have been an immature bird. This led them to place their Leyte specimens with the Negros rather than the Mindanao subspecies.

3. Immature birds of any race of this species have much less blue on the crown than do adults, and this may have misled some authors. When immature (short-tailed) birds are deleted from the series, Samar, Leyte, and Bohol birds are seen to be much closer to Mindanao than to Negros adults in the extent of blue on the crown, *contra* Rand and Rabor (1960) and deSchauensee and duPont (1962).

4. A character not used by previous authors is the dorsal coloration. Mindanao specimens are paler and more yellowish green (vs. deeper and purer green) than Negros birds and have on the foreback a distinctly yellowish area that is completely lacking in *whiteheadi.* Dorsal color in all Leyte birds examined is like that of Mindanao birds; one Bohol bird is nearest Mindanao birds, whereas another approaches Negros birds; of three Samar specimens, one resembles *discurus,* one *whiteheadi,* and one is intermediate.

5. Of the relatively small series I have measured of birds from these intermediate islands, eight adults from Leyte are decidedly the smallest (wing 149–161). Two from Bohol measured 160 and 166; two from Samar measured 161 and 163.

6. In conclusion, Salomonsen is correct in calling birds from these central islands intermediate, but the populations vary. Leyte specimens

are best considered *discurus>whiteheadi,* Samar intermediate, and Bohol *whiteheadi>discurus.*

Immature specimens of both these subspecies are duller green than adults, have less grass-green on cheeks and less yellowish green on the underparts, and have the blue of the crown duller and less extensive. A structural character separates the young of *discurus* and *whiteheadi.* It should first be pointed out that in adults the central rectrices grow with the shaft area proximal to the spatulate tip bare of barbs from the beginning (see AMNH 768214 and 768221). In young birds, however, the barbs are continuous along the shaft from the base to the tip but wear away (as in motmots, Momotidae) to produce the spatulate terminus (see AMNH 768217). In *discurus* the tip is rounded, and the area from which the barbs will be lost is somewhat pinched in, giving a spatulate appearance even before barb loss (see AMNH 620945). In *whiteheadi* the sides of this part of the feather are parallel; and the tip has straighter edges, being angulate rather than rounded (see AMNH 620936).

***Tanygnathus lucionensis* (Linnaeus, 1766)**

I fully agree with Rand and Rabor (1960:420–421) that it is futile to try to recognize as many green-backed subspecies of this species as did Salomonsen (1953). They combined all seven of the races recognized by Salomonsen into *talautensis* Meyer and Wiglesworth, 1895, the oldest name in the group, but apparently without actually examining specimens from the Talaut Islands. I have seen specimens in the AMNH of all of Salomonsen's putative subspecies and find that there is a clear difference between specimens from the Talaut Islands and all other green-backed populations. They have the bright blue of the head not restricted to varying portions of the crown, as in all other populations, but extending over the cheeks and entire facial area, even, in one specimen, to the chin. With one exception, no specimen examined from any Philippine island has more than a faint blue tinge on the cheek area. The exception is the type specimen of *nigrorum* Salomonsen, which approaches the Talaut birds in cheek color. However, as implied by Salomonsen himself (1953:219) in quoting Hartert's description of this very specimen as "remarkable," it is an aberrant individual. A series of eight Negros birds in the AMNH shows no approach to this bird; this matches the findings of Ripley and Rabor (1958:35–36) with respect to their Negros series. In calling the last-mentioned specimens *lucionensis,* however, the latter authors overlooked the difference between the blue-backed *lucionensis* of Luzon and Mindoro and the green-backed birds from farther south.

T. l. talautensis, then, must be considered a well-marked endemic race of the Talaut (or Talaud) Islands, between Celebes and Mindanao. The remaining green-backed populations of the species may then be combined under the next oldest name, *salvadorii* Ogilvie-Grant, 1896, type locality Mantanani Island, North Borneo. I have compared the same two Mantanani birds seen by Salomonsen with a good series from other islands. Synonyms of *salvadorii* are *horrisonus* Bangs and Peters, 1927 (Maratua Island, Borneo); *paraguenus* Hachisuka, 1930 (Puerto Princesa, Palawan); *koikei* Hachisuka, 1930 (Samal Island, off Mindanao); *moro* Hachisuka, 1934 (Jolo); *nigrorum* Salomonsen, 1953 (Canlaon Volcano, Negros); and *siquijorensis* Salomonsen, 1953 (Siquijor).

Salomonsen, in discussing the plumage sequence in this species, stated: "After the natal down follows apparently a juvenile plumage with brownish head, but I have seen only one bird of this appearance (in the Hachisuka-collection in PMYN)." Excessively worn individuals of this species appear very blackish on the head, as only the tips of the head feathers are green, the rest being brownish black. In the specimen mentioned by Salomonsen, which I have examined (Hachisuka 655, now S. Dillon Ripley collection 693), these head feathers are not only badly worn, but stained, as can be seen by examining other parts of the plumage. There is thus no "brown-headed" juvenal plumage, and the reader can skip to Salomonsen's description of what he calls "the ordinary juvenile plumage."

***Chrysococcyx xanthorhynchus* (Horsfield, 1821)**

This species is called *Chalcites xanthorhynchus* in most of the Philippine literature, but I fully agree with Friedmann (1968) that the genus *Chalcites* cannot be maintained. It is difficult enough to delimit the three genera *Cuculus, Cacomantis,* and *Chrysococcyx;* it does not help to artificially split any of them further.

Peters (1940:31) recognized three subspecies of this species, one with a query. *C. x. amethystinus* (Vigors, 1831) is the endemic Philippine race and is easily recognized by the bluer, less reddish violet of adult males. Peters considered *C. x. bangueyensis* (Chasen and Kloss, 1929) as a "doubtful form" and gave its range as Banguey Island, off northern Borneo. Friedmann (1968:110) gives the alternate spelling for the island (Banggi) and agrees that the race is dubious. Delacour and Mayr (1946:265) list *bangueyensis* as the resident race of Palawan, without comment; Peters had listed Palawan with a query in the range of nominate *xanthorhynchus.* The authors of *bangueyensis* described it as having less white on the rectrices than *xanthorhynchus.* I have examined no Banguey Island specimens, but I have compared a series of seven

Palawan specimens with the series of *xanthorhynchus* in the AMNH and cannot separate them. Whatever may be the validity of *bangueyensis,* then, it is not found in Palawan; Friedmann *(loc. cit.)* agrees in assigning Palawan birds to *xanthorhynchus.*

***Eudynamys scolopacea* (Linnaeus, 1758)**

Delacour and Mayr (1946:109) expressed their doubt about the validity of a Mindoro race of this species, *E. s. onikakko* Hachisuka, 1934 (not *"onikokko"* as spelled by Delacour and Mayr), by saying that the female was "alleged" to be lighter in color than that of *mindanensis,* the widespread Philippine race. Peters (1939:91) had already rejected it on the basis that his one Mindoro female was strongly rufescent, not "practically black and white." The type of *onikakko,* which I have examined in the AMNH, is a worn and faded female, but the new feathers that are beginning to appear on this specimen are as rufescent as in any other female *mindanensis;* so *onikakko* is a synonym of *mindanensis* (Linnaeus, 1766) .

A supposed Palawan subspecies, *E. s. paraguena* Hachisuka, 1934, was accepted by Delacour and Mayr (1946:265), who characterized it as having the "female redder and darker even than *E. s. mindanensis.*" Peters (1940:37) considered *paraguena* "doubtfully distinct." I have compared the type and four additional females from Palawan with a good series of *mindanensis* from other islands. Just as the type specimen of *onikakko* is worn and faded, so the type specimen of *paraguena* is exceptionally fresh and unfaded, thus appearing to be richly colored. However, it can be matched by fresh specimens from Mindanao and elsewhere; and *paraguena,* too, is a synonym of *mindanensis.*

Traylor (1967:19–20) has given a detailed account of the plumage sequence of this species. He stated that the juvenal plumage is *not* wholly black, as had been stated by several previous authors, but blackish brown, with the lower breast and belly barred with buff. Traylor did not state the geographic origin of his juvenile specimens of this widespread Asian species. Rand (1951:581) described an "immature female" from Mindanao that was just beginning a molt into a barred plumage from a completely black plumage, similar to but duller and less glossy than the plumage of the adult male. The Philippine material in the AMNH indicates that in females such a black juvenal plumage is succeeded by a barred plumage but *not* of "adult female type" as characterized by Rand. This plumage differs from the definitive female plumage in having smaller rufous spots dorsally, slightly broader dark bars on the underparts (giving a blacker aspect), and narrower rectrices. The black juvenal rectrices are also narrow. AMNH 627290 from Ayala, Mindanao, October 8, 1889, has one new narrow barred rectrix among the narrow black ones of the juvenal plumage. Traylor (*loc. cit.*) has already suggested, on the basis of a FMNH specimen from Bangkok, that in tropical populations of this species the "post-juvenal" molt may be complete and involve remiges and rectrices. The discrepancies that still remain among plumage descriptions of this species even after Traylor's careful study indicate that it is virtually a certainty that there is geographic variation both in the aspect of some of the predefinitive plumages and in the extent of the molts of young birds.

Centropus melanops Lesson, 1830

The proposed subspecies *C. m. banken* Hachisuka, 1934, described as a Samar endemic, has had little support. Peters (1940:76) stated that its distinctness needed confirmation, and Delacour and Mayr (1946:111) called it "doubtfully distinct." Rand and Rabor (1960:334) were unable to confirm the supposed characters of *banken* and synonymized it with *melanops.*

I have examined an excellent series of this species, distributed as follows: Mindanao, 12; Basilan, 3; Samar, 15; Leyte, 14; Bohol, 3. I find that *banken* is a recognizable race; but, as might be expected on geographic grounds, it is not a Samar endemic. The birds of Samar, Leyte, and Bohol are *banken;* those of Mindanao and Basilan are *melanops.* The distribution of the two races thus matches a frequent pattern of geographic variation in Philippine birds. I agree with Rand and Rabor that size is not a character of *banken* and the subspecies must be defined on the basis of color. The most obvious character is the greater amount of black on the face of *banken,* just as described by Hachisuka. This is best seen by examining the specimens from above (dorsally): the buff area between the black face patches is narrower in *banken,* and the black also extends farther posteriorly. This character is even better developed in Leyte than in Samar birds.

The other characters of *banken* are more subtle and, unfortunately, tend to disappear rapidly with wear and fading of feathers. Such characters have been rejected by some taxonomists as "not useful" because so many museum specimens have been collected at the height of the breeding season and are too worn to use for color comparisons. This defeatist attitude overlooks the fact that such characters, even if visible for only a short period, have a genetic base and are just as much an expression of the genetic distinctness of a population as are more long-lasting and "useful" characters.

When unworn feathers are compared, then, it can be seen that the browns of Mindanao specimens are paler than those of *banken,* notably on the mantle and remiges. Fading of these feathers rather quickly obscures the color difference. Another character, overlooked by previous authors, lies in the color of the iridescence of rump, tail, and belly. This, too, is a difficult character to use because of the effects of wear. However, when the series as a whole are compared, it can be seen that the iridescence of Mindanao birds is greener; that of birds from Samar/Leyte/Bohol is bluer. This is especially noticeable when growing, fresh rectrices are compared.

The poorest specimens among the examined material are the three birds from Basilan. I cannot separate these from the Mindanao series of *melanops,* and so identify them, admittedly partly on the basis of geographic probability.

Bubo philippensis philippensis (Kaup, 1851)

This owl is attributed to the island of Cebu in all of the standard literature in recent years. The supposed Cebu record is derived from Hachisuka (1934:49), who stated that "McGregor records in 1921 the Cebu specimen which arrived at Manila in captivity." In point of fact, Hachisuka misread the statement in McGregor (1921), which is as follows: "On May 2, 1921, we received a live owl at the Bureau of Science. Under the date April 30 Mr. Dean C. Worcester, of Cebu, wrote that he had received this owl from Catbalogan, Samar." A more nearly accurate statement about the same specimen is presented in Rand and Rabor's Samar list (1960:387) under *Bubo philippensis mindanensis* (Ogilvie-Grant, 1906): "Collected by Worcester in 1921." It is obvious that Cebu must be deleted from the range of the nominate race, which is known only from Luzon.

Ninox scutulata (Raffles, 1822)

DuPont (1971) listed three Luzon specimens of this species under the name *N. s. florensis* (Wallace, 1864), following the usage of Deignan (1951). It is not clear from Deignan's paper whether he actually compared the type of *Athene florensis* Wallace with specimens from the Chinese population to which he assigns the name. Whether or not the name is applicable, I agree with Deignan that there is a paler mainland race, with grayer (less rufescent) tail and whiter underparts, that is separable from *N. s. japonica* (Temminck and Schlegel, 1850), as exemplified by Japanese specimens. In addition to the three Luzon specimens listed by duPont, I have now examined another Philippine specimen of this migrant race in the James Ford Bell Museum of Natural History, University of Minnesota, where it bears the catalogue number 11501. It is a female collected by Bourns and Worcester (orig. no. 347) on the island of Sulu (= Jolo) during the Menage Expedition, September 30, 1891. I believe it to be highly likely that many Philippine specimens that have been identified in the past as *japonica* will prove, upon reexamination, to be referable to the pale, grayish race called *florensis* by Deignan.

Penelopides panini (Boddaert, 1783)

Some of the characters that have been used in the literature to define races of this species are not trustworthy. Delacour and Mayr (1946:145) give a single description each for males and females of the entire species, stating that the subspecies differ "mostly in size and in the amount of light color on the tail." This overlooks the fact that the sexes are alike in the Mindoro race, *P. p. mindorensis* Steere, 1890. Hachisuka (1934:160) states that "the female is similar to the male but has the forehead blackish and the black band on upper throat wider." The material in the AMNH indicates that there is no correlation between sex and the width of the throat band. Ripley and Rabor (1958: 47) mention only the supposed blackish forehead of the female. This, too, is not a sex character; either it represents an age character or it is simply individual variation. Of three males in the AMNH, one has as much blackish on the crown and forehead as do the two females; one has somewhat less; and one has none at all.

The original description of *P. p. basilanica* Steere, 1890 (which was copied intact by Hachisuka [1934:165] without credit) relies heavily upon differences in tail pattern to separate this form from *P. p. affinis* Tweeddale, 1877, from Mindanao. The greater amount of rufous and lesser amount of black at the base of the tail claimed for *basilanica* are present only on the average. The pale (flesh color in life) base of the bill of *basilanica* is a much better character and is visible even in juveniles.

Although Leyte males do have, on the average, somewhat less black at the base of the tail than do Samar males, this is far too variable to warrant the recognition of *P. p. leytensis* Hachisuka, 1930, and it does not hold true in females. In fact, I can find no character by which Samar and Leyte females can be separated from *affinis,* and the recognition of *P. p. samarensis* Steere, 1890, rests on the buff rather than black upper tail-coverts of the male.

Mulleripicus funebris (Valenciennes, 1826)

No one appears to have critically reviewed the validity of *M. f. mayri* Gilliard, 1949a, described from northeastern Luzon, such authors as Rabor (1955) continuing to use the name *funebris* for birds from northern Luzon without comment. I have reexamined Gilliard's original material in the AMNH, plus more recently acquired specimens in the AMNH and CM.

In separating *mayri* from *funebris,* Gilliard used tail and bill length; bill color; size of spotting on chin, throat, and neck; and amount of spotting on crown and occiput. The spotting characters represent a genuine trend, although the geographic variation is partly masked by individual variation. There is a decided cline in size, decreasing from north to south, that includes wing length but, as indicated by Gilliard, is better expressed in tail and bill length. The difference in bill color is as described by Gilliard, with northern birds having the maxilla yellowish ivory in the dried skin (I noted the bill color of CM 136931 in the field as being "whitish horn") and southern birds blackish; even in southern birds the distal portion of the mandible is usually pale. Gilliard has restricted the type locality of *funebris* to "Mt. Maguiling," Laguna, Luzon; this is a misspelling of the Spanish orthography Maquiling, which is now obsolete, the Filipino spelling Makiling being preferred. Birds from Laguna Province south in Luzon are typical of *funebris* in all characters, as is one from Cavite Province, west of Laguna. As Gilliard indicates, his series from Bataan is intermediate. One from southernmost Tarlac Province is intermediate, but nearer *mayri,* and two from Nueva Ecija Province show a mixture of characters.

In summary, *M. f. mayri* Gilliard can be recognized for the birds of northern Luzon, at least in Isabela, Cagayan, and Ilocos Norte provinces. Intergradation with *M. f. funebris* takes place in a fairly broad belt across central Luzon, starting just north of Manila.

Dryocopus javensis (Horsfield, 1821)

At the time of my description of *D. j. samarensis* (Parkes, 1960a), the extant material of *D. j. pectoralis* (Tweeddale, 1878) from Leyte was highly inadequate. Subsequently, the AMNH received a fine series of eight Leyte specimens, and it was immediately apparent that the supposed differences between Samar and Leyte specimens were completely bridged by individual variation. *D. j. samarensis* Parkes is therefore a synonym of *D. j. pectoralis* (Tweeddale).

Additional material from Luzon has made it apparent that this is another of the species that varies geographically on that large island. At present, all Luzon birds are called *D. j. confusus* (Stresemann, 1913), of which the type locality is Mount Arayat. Hachisuka (1930:181) erred in stating that the type locality is located in Benguet [subprovince], Mountain Province. Mount Arayat is a volcanic cone arising abruptly from the interior lowlands of northeastern Pampanga Province, about 45 miles north of Manila. The type of *confusus,* which I have examined, matches specimens from farther south in Luzon. The northern bird therefore needs a name and may be called:

Dryocopus javensis esthloterus new subspecies

Type AMNH 416832, adult ♂, collected at Haight's Place, Benguet Subprovince, Mountain Province, Luzon, April 24, 1930, by Francisco Rivera.

DIAGNOSIS: Similar to *D. j. confusus* (Stresemann) of central and southern Luzon, but white markings on throat and sides of head of both sexes greatly reduced, to the extent that they are wholly absent from the interramal area (which is streaked with white in *confusus);* bill averaging more slender. Width of bill at base: *esthloterus* ♂ 18; ♀ 16, 16.5, 17. *confusus* ♂ 18, 19, 19, 20; ♀ 18, 19, 20.

RANGE: Northern Luzon; known from Mountain and Isabela provinces.

ETYMOLOGY: From the Greek *esthloteros,* meaning "better," in the confident hope that this subspecies is more certain to survive reexamination than was true of *samarensis.*

SPECIMENS EXAMINED: *confusus*—Mt. Arayat (type), 1; Mt. Makiling, Laguna Prov., 3; Lamao, Bataan Prov., 1; Sorsogon, Sorsogon Prov., 1; "Camarines," 1; "Philippines," 2. *esthloterus*—Haight's Place, Benguet Subprov., Mountain Prov., 2; Benguet, unspecified, 1; Barrio Disulap, San Mariano, Isabela Prov., 4.

Riparia paludicola tantilla Riley, 1935

Mayr (*in* Delacour and Mayr, 1945:111) sought to suppress *tantilla* as inseparable from *R. p. chinensis* (Gray, 1830), partly on the basis that differences in rump color were "slight" and partly because of uncertainty of the type locality of *chinensis.* My original comparisons were made with my own three specimens, collected in Luzon in 1956. They were completely unlike any AMNH specimens of *chinensis,* being much darker. This might have been attributed to differences in museum age, as the newest specimens at the AMNH had been collected 18 and 21 years earlier. However, in all specimens of *chinensis* (including the one Formosa specimen cited by Mayr) the rump is noticeably paler than the back, whereas in my three specimens from Luzon it is scarcely if at all paler.

Riley's original comparison states that *tantilla* is similar to *chinensis* "but darker above, especially on the pileum and rump." Like Mayr, I could not verify any special darkness on the pileum. Riley's Philippine specimens were old (the type was collected in 1907), and yet the dark color as compared with Burmese and Siamese specimens was still obvious. I have subsequently examined the type series in the USNM and have confirmed the absence of a pale rump area as an excellent character of Luzon birds. As for the type locality, this has now been fixed by Deignan (1963:100) as Formosa; as just mentioned, the Formosan bird in the USNM matches mainland specimens, but not Luzon birds, in having a pale rump. I therefore consider *R. p. tantilla* to be a recognizable endemic Philippine subspecies, characterized by having the rump not paler than the back and (probably) by general darker dorsal coloration than *chinensis*.

Hirundo rustica **Linnaeus, 1758**

Both the taxonomy and the nomenclature of the Barn Swallow populations of Asia are uncertain. Delacour (1951:25–26) recognized three subspecies among the winter visitors to Indochina: *gutturalis* Scopoli, 1786, with white underparts; *tytleri* Jerdon, 1864, with chestnut underparts; and *mandschurica* Meise, 1934, for an intermediate form. Vaurie (1959:11) uses the name *saturata* Ridgway, 1883, for the intermediate form, with *mandschurica* as a synonym. Peters (1960:106–107) recognized *four* subspecies under the four names just mentioned, but he considered the status of *saturata* uncertain, as Dementiev had been unable to distinguish birds from Kamchatka (type locality of *saturata*) from the North American *erythrogaster* Boddaert, 1783.

Without question, more than one form of Barn Swallow migrates to the Philippines. The vast majority are referable to *gutturalis*, which has the underparts white to faintly pinkish. A few are more intensely pigmented below, but not as dark as *tytleri*. Whether these birds can, in fact, be separated in series from *erythrogaster* is an open question; the one now before me has a richer chestnut throat than any *erythrogaster* in the CM series, but this may not be consistent, and the remaining portions of the underparts can be matched in the New World series. For convenience, I follow Vaurie in using the name *saturata* for these birds. Specimens I have identified as being of this form are AMNH 296071 and 296073, Las Pinas, Rizal Province, Luzon, September 19, 1915, and CM 138359, Tacloban, Leyte, September 28, 1945.

Hirundo tahitica javanica **Sparrman, 1789**

The subspecific treatment of the Pacific Swallows of the Indo-Malaysian area has fluctuated greatly. The Philippine population has gone under three or four different names with shifting concepts. Oberholser (1926) described the Philippine population as *Hypurolepis javanica mallopega.* Peters (1960:108) synonymized this name with *H. j. abbotti* Oberholser, 1917, type locality Anamba Islands. The name *H. j. hypolampra* Oberholser, 1926, was synonymized by Peters with *javanica.*

After I had looked over the available material in the AMNH, it appeared that Oberholser badly oversplit these swallows, and I refer the Philippine birds to *javanica.* Whether the name *abbotti* is valid for the birds of a portion of the large range listed by Peters I am not prepared to say, but I am satisfied that Philippine birds cannot usefully be separated from those of Java.

Coracina striata **(Boddaert, 1783)**

Delacour and Mayr (1946:164–167) list briefly the characters of the races recognized at that time, and Ripley and Rabor (1958:55–56) discuss geographic variation in some detail. A few additional, supplementary, or corrective points can be made.

Subsequent to the appearance of the two papers just cited, Rand and Rabor (1959) separated *C. s. boholensis* of Bohol and Samar from *C. s. kochii* (Kutter, 1882) of Mindanao, with which birds from Bohol and Samar had formerly been placed. Rand and Rabor did not examine Leyte specimens nor mention Leyte; but, as might be expected, birds from that island are referable to *boholensis.* Although this is a good subspecies, there are fewer valid differences between it and *kochii* than were listed by its authors. The best characters lie in the described differences in the barring of the rump and under tail-coverts, except that a few individuals of *kochii* have as much black barring on the under tail-coverts as do some of the less heavily marked individuals of *boholensis.* In series there is no significant difference in the shade of gray of the underparts. The only difference in the black barring of the abdomen is that in most, but not all, *kochii* the bars thin somewhat on the middle of the abdomen; whereas in most, but not all, *boholensis* the bars are consistent in width across the abdomen. My measurements show no size difference.

Within *kochii,* Basilan specimens tend to have black barring on the under tail-coverts more often than do Mindanao specimens, although they are farther from the range of *boholensis.*

A careful reading of the accounts of *panayensis* (Steere, 1890) and *kochii* in Delacour and Mayr (1946:164) will show that, although both races are described in some detail, there is actually no character given in the descriptions to differentiate between the two; the wording of Ripley and Rabor is clearer when they describe the female of *panayensis* as having "patches of solid gray mixed with black and white barring on the breast, becoming clear black and white bars on the abdomen . . ." etc.; whereas female *kochii* is "barred with black and white on the entire underparts." In point of fact, the degree of development of the barring on the anterior underparts of *panayensis* is highly variable. Ripley and Rabor mention no differences between males of these two races. There are three excellent characters differentiating both sexes of *kochii* and *panayensis*. The latter is larger (wing of ♂ approximately 170 vs. 155 in *kochii)*, more *heavily* barred on rump and abdomen, and much blacker on the lores; in fact, the male of *panayensis* has a clearly defined black mask extending back over the eyes.

Neither of these pairs of authors mentions the characters of young birds. In addition to the longer and more pointed rectrices typical of young Campephagidae in general, they have prominent white borders on the wing-coverts and are much more extensively barred. For example, in the nominate race of Luzon, adult males normally have only a trace of barring on the rump (somewhat more in birds from southernmost Luzon), and adult females have bars on the rump and posterior underparts. Young males resemble adult females, with heavily barred rumps and posterior underparts; whereas young females are barred from the chin to the under tail-coverts (as in *kochii* adult females) and apparently on the back as well, judging from CM 136939 from Tarlac Province, August 9, 1956, the youngest Philippine specimen examined.

Ripley and Rabor consider plain gray plumage primitive in this species, with evolution tending toward increasing amounts of black and white barring. In view of the barred condition of the young of unbarred races, I suspect that the exact opposite sequence of evolution may be correct. The female of the all-gray race *mindorensis* preserves a trace of the barring on the under wing-coverts; in this concealed area it is easier to imagine this as a relict pattern than as the beginning of something that will be selected for.

Coracina morio **(Müller, 1843)**

The type locality of *Edoliisoma elusum* McGregor, 1905 (= *Coracina morio elusa*) is Balete, Río Bacó, Mindoro. Luzon birds have hitherto been assigned to this race, but comparison of assembled series from the two islands shows that the Luzon birds are separable. They may be known as:

Coracina morio lecroyae **new subspecies**

Type AMNH 459424, adult ♂, collected at Lamao, Bataan Province, Luzon, Philippines, on November 29, 1947, by E. Thomas Gilliard (collector's no. 210).

DIAGNOSIS: Similar to *C. m. elusa* of Mindoro, but wing and especially tail shorter; general body color somewhat paler gray; edgings of remiges and wing-coverts decidedly paler gray, even whitish in females, so that wing edgings are distinctly paler than body color rather than concolorous as in *elusa*.

MEASUREMENTS: ♂ wing: *elusa* 129, 130, 132, 134, *lecroyae* 126, 126, 127, 128, 128, 130, 132. ♂ tail: *elusa* 102, 104, 107; *lecroyae* 90, 93, 97, 98, 98, 98.5. ♀ wing: *elusa* 127, 127; *lecroyae* 116, 122. ♀ tail: *elusa* 95, 99; *lecroyae* 90, 91.

RANGE: Island of Luzon.

ETYMOLOGY: *Coracina morio* is one of the relatively few Philippine land birds whose range extends to New Guinea. Tom Gilliard, collector of the type of the new race, may have been the only ornithologist to have collected the species in both areas. It is a pleasure to name this race for Dr. Gilliard's long-time collaborator, Mrs. Mary LeCroy of the AMNH, who has always been most helpful in my Philippine studies.

As recently as Vol. 9 of the Peters Check-list in 1960, the range of *C. m. mindanensis* (Tweeddale, 1878) was given simply as Mindanao and Basilan; the species has since been collected on Samar, Leyte, and Bohol. Rand and Rabor (1960:396) stated that their one Samar female did not differ from Mindanao specimens, while deSchauensee and duPont (1962:161) pointed out differences in both size and color between three Leyte and three Mindanao specimens. Examination of material from several museums shows that the birds of Samar, Leyte, and Bohol can be separated from those of Mindanao and Basilan and may be called:

Coracina morio ripleyi **new subspecies**

Type AMNH 768363, adult ♀, collected at Barrio Patok, Dagami, Mt. Lobi, Leyte, Philippines, on July 27, 1961, by G. Alcasid and M. Celestino.

Diagnosis: Nearest *C. m. mindanensis,* but wing and tail averaging longer; males with rump paler than back but not as pale as in *mindanensis,* and with all grays (body, wing edgings) paler, about as in *lecroyae* of Luzon; females with rump usually pale gray rather than whitish as in *mindanensis,* and lower abdomen and under tail-coverts light gray, not white; terminal black band of central rectrices of both sexes narrower. Although this subspecies is obviously intermediate in its characters between *lecroyae* and *mindanensis,* it cannot be placed with either one; it is relatively stable in its characters over a large range of its own, so is worthy of nomenclatorial recognition. There is some variation: a Leyte female (DMNH 2166) is as white on the under tail-coverts as *mindanensis,* but has the reduced black tail band typical of *ripleyi.*

Measurements: ♂ wing: *mindanensis* 117, 117, 117, 119, 120, 120, 121; *ripleyi* 124, 124.5, 125. ♂ tail: *mindanensis* 88, 91.5, 92, 92, 93.5, 94; *ripleyi* 92, 96, 99. ♀ wing: *mindanensis* 116, 116, 117, 117, 120; *ripleyi* 118, 120, 121, 125. ♀ tail: *mindanensis* 83, 89, 90.5, 91.5, 94; *ripleyi* 94, 94, 99.

Range: Islands of Samar, Leyte, and Bohol.

Etymology: This subspecies is named in honor of Dr. S. Dillon Ripley of the Smithsonian Institution, one of the most prolific of modern contributors to our knowledge of Philippine birds.

As literature descriptions suggest, *C. m. everetti* (Sharpe, 1893) is exceedingly close to *elusa.* I have seen only three Sulu specimens and cannot separate these from Mindoro birds in color. They are, however, smaller. Thus *everetti,* which is geographically separated from *elusa* by the distinctive pale-rumped *mindanensis,* is a poorly characterized race of the size of *lecroyae* and the color of *elusa.* The two Sulu males measure wing 118, 126; tail 92, 102. The smaller of the two specimens is a subadult.

Specimens examined: Luzon, 9; Mindoro, 5; Leyte, 6; Bohol, 2; Samar, 1; Mindanao, 9; Basilan, 5; Sulu Archipelago, 3.

Coracina ostenta **Ripley, 1952**

Steere (1890:14) named two new species of campephagids as *Artamides Panayensis* and *Edoliisoma (Graucalus) Panayensis.* For many years, both of these names were used, in the forms *Coracina striata panayensis* and *Edolisoma panayensis* respectively. With the merging of *Edolisoma* into *Coracina* now generally accepted, Ripley (1952) pointed out that there were now two forms of identical date named *panayensis* within the expanded genus *Coracina;* and as first revisor, he proposed the name *Coracina ostenta* as a substitute for *Edoliisoma (Graucalus)*

Panayensis Steere. Mayr (*in* Peters, 1960:193, footnote) claimed that "this name is invalid because of the mandatory provision stated in Bull. Zoöl. Nomencl., 4, 1950, p. 265, par. 38, and *id.*, 14, 1957, p. 184, Art. 24, Sect. 14, which states that 'If homonyms are of identical date, one proposed for a species takes precedence over one proposed for a subspecies.' " This provision (now Article 57e of the International Code of Zoological Nomenclature) does not apply to the present case, and Mayr's action (which left two *"panayensis"* within *Coracina* in the Peters Check-list) was unwarranted. Steere proposed *both* of his names for what he believed to be species; the fact that later authors have made the *subjective* taxonomic decision to consider *Artamides Panayensis* Steere a subspecies of *Coracina striata* is irrelevant. As first revisor, Ripley was perfectly within his rights in retaining the first *panayensis* on the page and renaming the second, and *Coracina ostenta* Ripley is the valid name for the White-winged Graybird.

I may say in passing that I do not consider the smaller bill, invoked by Voous and van Marle (1949:33) to be a sufficient basis for reviving *Edolisoma,* nor can I follow Mees (1964:15) in recognizing *Edolisoma* "mainly because otherwise *Coracina* would become a very large genus."

Dicrurus balicassius **(Linnaeus, 1766)**

In naming *D. b. abraensis* from northern Luzon, Vaurie (1947:2) neglected to restrict the type locality of *Corvus balicassius* Linnaeus, 1766 ("Philippines"). He obviously assumed the type locality to be the vicinity of Manila, and it should be so restricted. The species is, however, a forest bird and does not now occur at Manila itself, nor did it probably occur there in the late 18th century. I therefore restrict the type locality of *balicassius* to Mount Makiling, Laguna Province, a well-known locality near Manila from which ample topotypical material is available.

Material received in recent years by the YPM from Cagayan Province and by the AMNH from Isabela Province amply confirms the validity of *abraensis* Vaurie as a race of northern Luzon. The statement in Vaurie (1962:148) to the effect that *abraensis* "intergrades with *balicassius* in north-central Luzon in the region of the Lingayen Gulf or a little to the south of it" was based on two specimens from Bayambang, Pangasinan Province. Recent specimens help to verify and clarify the zone of intergradation. A specimen from the Tarlac-Pampanga border, about three miles southwest of Bamban (CM 136940), and a series in the AMNH and CM from central Nueva Ecija Province are all intergrades between *abraensis* and *balicassius,* while Gilliard's Bataan Peninsula series (AMNH), not used by Vaurie, is typical *balicassius.* The northernmost specimens assigned to *balicassius* by Vaurie were from Rizal Province, and CM material from that province confirms Vaurie's identification.

Dicrurus hottentottus samarensis Vaurie, 1947

Rand and Rabor (1960:360–361) rejected this subspecies, considering it a synonym of *D. h. striatus* Tweeddale, 1877. Vaurie based *samarensis* on three characters: length of tail, depth of tail fork, and width of the spangles of throat and breast. I agree with Rand and Rabor that the variation in the latter two characters has no geographic correlation. In tail length, however, my measurements of Leyte specimens not seen by other authors, plus the measurements published by Vaurie and by Rand and Rabor, indicate that there is an overlap of only 2 or 3 mm. between the two forms. The tail length differences are sufficiently consistent to warrant recognition of Vaurie's *samarensis* as a weak but recognizable subspecies. In the specimens I have measured, the longest (outermost) rectrix of *striatus* is 100–111.5, of *samarensis* 90–99.5. Assuming the measurements were made the same way, there is a slight overlap when the measurements of Rand and Rabor are added; they found a maximum of 102 in Bohol and 103 in Samar specimens.

Oriolus albiloris Ogilvie-Grant, 1894

Gilliard (1950:502–503) cleared up the question of the relationships of *Oriolus albiloris* and *O. isabellae* Ogilvie-Grant, 1894, pointing out that they had nothing to do with one another, *contra* the suspicions of Delacour and Mayr (1946:254) that the two forms might be age classes or color phases of a single species. Gilliard did not, however, take the next step and show that *Oriolus albiloris* is nothing more than the Luzon representative of *O. xanthonotus,* albeit a highly distinctive one because of its xanthic pigmentation. The relationship is shown clearly in the bill color, tail pattern, general size and proportions, and the subdued streaking of *albiloris* that corresponds exactly in pattern to the streaking of *O. xanthonotus* subsp. The chest of *albiloris* is even darkened in the same area that is gray or gray-brown in Philippine races of *xanthonotus.* At first glance, the differences between *albiloris* and the races of the rest of the main Philippine archipelago may seem so striking as to preclude conspecificity. If these latter birds, however, are to be united (as they have been by all recent authors) with the black-headed, black-winged, black-tailed *O. xanthonotus* Horsfield, 1821, of Malaysia as a single species, then there is no doubt that *albiloris,* which in some ways resembles the other Philippine races more than the latter do *xan-*

thonotus, should also be considered a member of this species. The White-lored Oriole, then, should be known as *Oriolus xanthonotus albiloris.*

Incidentally, the sequence of the subspecies of *Oriolus xanthonotus* as listed by Greenway (1962) is misleading; the Palawan race *O. x. persuasus* is placed among the Philippine races; but it is, in fact, one of the black-headed group allied to *O. x. xanthonotus* (and was not considered separable from *O. x. consobrinus* of Borneo by Delacour and Mayr [1946:282]).

Parus semilarvatus (Salvadori, 1865)

The type locality of *Melaniparus semilarvatus* Salvadori was originally given as "Himalayas" as the two original specimens had been catalogued into the Turin Museum along with a Himalayan collection. Salvadori himself was dubious about their origin, as he later (1879) conjectured that they might have been received with a collection from central Africa; and, in a list of species of the "genus" *Melaniparus,* he gave the range of *semilarvatus* as "in Himalaja, an potius in Africa centrali?" Gadow (1883:38–39) pointed out that two specimens in the BMNH were labeled, respectively, "Philippine Islands" and "N. China" but that the latter specimen was from the Fortune collection, many of which came from Luzon. The first specimens with definite localities were two from the vicinity of Manila, reported by Wardlaw Ramsay (1884:334–335), and shortly thereafter Whitehead collected the species at several localities in Luzon. Worcester and Bourns (1898:560), in a table of distribution of Philippine birds by islands, indicated the presence of *Parus semilarvatus* on Negros. McGregor (1909:608) attributed the Negros record to the Steere Expedition. The report of the latter (Steere, 1890) does not list this species, nor can I find any documentation for any Negros record. Although Negros appears in the literature of *Parus semilarvatus* as recently as the Peters Check-list (Snow, 1967), there does not appear to be a documented Negros record for the species, which is known only from Luzon and Mindanao.

No formal designation of the type locality of *semilarvatus* appears to have been made, although when the species was thought to be confined to Luzon (*i.e.,* before Negros was erroneously added to the range), the type locality was obviously inferentially Luzon. As it now develops that there is geographic variation on the island of Luzon itself, a further restriction must be made. The colored plate of the type specimen (Salvadori, 1879) shows a bird matching quite well the population of central and southern Luzon, and this is, of course, the most likely source of specimens in the mid-19th century. I therefore restrict the type locality of *Melaniparus semilarvatus* Salvadori, not simply to "Manila," as this is a species of mountain forests, but specifically to Mount Arayat, Pampanga Province, Luzon, the first *definite* locality from which the species was reported (Whitehead, *in* Ogilvie-Grant, 1894:408).

As long ago as 1896, Ogilvie-Grant, in describing specimens of *Parus semilarvatus* from Cape Engaño, northeasternmost Luzon, mentioned precisely the characters by which the population of northern Luzon is distinguished. He stated (1896:119) that in a young male "the white patch on the nape is very conspicuous" and that "it is worth mentioning that the adult *female* differs from the adult male in having the underparts deep brown instead of shining black, for this sexual difference appears to have been hitherto overlooked." It was overlooked because it is much less true of the birds from near Manila, the only ones previously described.

The distinctive northern race may be known as:

Parus semilarvatus snowi **new subspecies**

Type AMNH 768004, adult ♀, collected at Barrio Disulap, San Mariano, Isabela Province, northern Luzon, Philippines, on May 10, 1961, by G. Alcasid *et al.* (collectors' no. 403).

DIAGNOSIS: Adult males differ from *semilarvatus* of central and southern Luzon in being slightly duller, less glossy black above and below; the concealed white patch on the nape averaging more extensive; inner webs of remiges with broader, purer white edgings; bases of under tail-coverts more extensively white. Adult females differ more strikingly: the underparts are decidedly browner than in *semilarvatus,* and the upperparts less glossy; the white nape patch (which is larger than that of males in both races) conspicuous, not fully concealed, and continuing (partly concealed) around the sides of the head as a "semicollar"; white on remiges as in males. Juvenile males resemble adult females in having the "semicollar"; there is a trace of this in juveniles of *semilarvatus,* but it is much more concealed. No detailed comparison is needed with *P. s. nehrkorni* (Blasius, 1890), the Mindanao subspecies, which differs from both Luzon races in having a conspicuous white band across the remiges.

RANGE: Northern Luzon (see list of specimens examined for localities).

ETYMOLOGY: This new titmouse is appropriately named for Dr. David Snow of the British Museum (Natural History), author of the section on the family Paridae in the Peters Check-list.

SPECIMENS EXAMINED: (All localities are on Luzon.) *P. s. semilarvatus*

—Mount Arayat, 1; Bataan Province (various localities), 6; Sorsogon, 2. *P. s. snowi*—San Mariano, Isabela Province, 8; Cape Engaño, 3; Isabela Province (unspecified), 1.

Rhabdornis mysticalis (Temminck, 1825)

Rand and Rabor (1960:436) recommended the recognition of three races, rather than the traditional two, of this species; and their treatment was followed in the most recent list, that of Greenway (1967:161). For the birds of Negros and (probably) Panay, Rand and Rabor revived the name *R. m. longirostris* McGregor, 1911. Their material, however, was severely limited. They presented measurements of one pair each from Bataan and Abra provinces, Luzon, as representative of *mysticalis* and 3 ♂ 1 ♀ from Negros as representative of *"longirostris."* As their measurements show, and as they state, "The birds of the mountains of northern Luzon are larger than those from Bataan." In point of fact, a decided cline in decreasing bill length runs from north to south in Luzon, as shown below:

Northern (various provinces): AMNH, CM, FMNH
    ♂ (total culmen) 26, 27, 27, 27, 27, 27.5, 28, 28, 29
    ♀ 25, 25.5, 26, 27, 27.5, 27.5, 27.5
Central (Bataan Prov., FMNH; Laguna Prov., CM)
    ♂ 24
    ♀ 23, 25
South (Sorsogon Prov.): AMNH
    ♂ 23, 23, 23, 24.5
    ♀ 21.5
Negros: AMNH, FMNH
    ♂ 27, 27.5, 27.5, 28, 28.5, 29
    ♀ 25

As already suggested by Rand and Rabor, there are no color characters separating any of these populations. The measurements of Negros specimens are precisely the same as those of northern Luzon. I see no basis here for the recognition of *"longirostris"* and regard this name as a synonym of *mysticalis.*

Neither Delacour and Mayr (1946:220) nor Greenway (1967:161) lists the island of Catanduanes in the range of this species. In the AMNH there are three specimens collected by Whitehead on that island; they do not differ in any way from Luzon *R. m. mysticalis.*

The subspecies *R. m. minor* Ogilvie-Grant, 1896, although also based chiefly on bill length, can be recognized; culmen measurements are consistently smaller than even the smallest of Luzon *mysticalis* (see Rand and Rabor, 1960:436). Rand and Rabor also state that *minor* differs from *mysticalis* "in the browner, less grayish brown upper parts." There is a strong but inconsistent tendency in this species toward sexual dimorphism in the color of the upperparts. In general, males are grayer and females browner. Two specimens in the AMNH taken by reliable collectors represent exceptions. AMNH 296389, from Mt. Makiling, Laguna Province, was marked as "♂ ad." by John T. Zimmer and is very brown, whereas a gray-backed bird, AMNH 459618, taken by E. T. Gilliard at Lamao, Bataan, not only is sexed as female but has a drawing of the gonad on the label. Thus, color comparisons must be made on a sex-for-sex basis. I find little difference between gray individuals of *mysticalis* and *minor,* but it is true that brown individuals from Samar and Leyte are slightly ruddier than those from Luzon.

Stachyris striata (Ogilvie-Grant, 1894)

This has been considered a highland species; Delacour and Mayr (1946:189) give its range as "mountain slopes of northern Luzon, between 4000 and 6000 feet." A series recently received by the AMNH was collected on April 24, 1961, at Sitio Pinablog, Barrio Santa Filomena, San Mariano, Isabela Province, at an altitude of 380 feet.

Cisticola juncidis (Rafinesque, 1810)

I accept only tentatively the name *tinnabulans* (Swinhoe, 1859) for the population of this species in the Philippines, as used by Lynes (1930) and other authors. After examining the AMNH material from the large range ascribed to *tinnabulans,* I believe it almost certainly to be a composite race. The type locality is Formosa, and unfortunately only a single worn bird from this island was available. There is the added complication that at least some of the mainland populations ascribed to *tinnabulans* are migratory. A series from several mainland localities in the vicinity of the mouth of the Yangtze River is colder, less rufescent than Luzon birds, while a small series from the island of Hainan is richer in color and less contrastingly streaked than Luzon birds. A long series in the YPM from various parts of Indochina are warmer and more rufescent in color than the Luzon sample.

Lynes (1930:96) considered "southern Philippine birds, *e.g.* Bohol and Palawan" to represent intergrades between *tinnabulans* and *fuscicapilla* Wallace, 1863, the subspecies of eastern Java, the Lesser Sunda

Islands, and Celebes. I have examined nine Palawan specimens, four of which were handled by Lynes and labeled by him as intergrades, as noted above. I disagree with this analysis and find that the Palawan population differs from both *fuscicapilla* and *tinnabulans* (including both Luzon and other populations). It amply merits its own name and may be called:

Cisticola juncidis nigrostriata **new subspecies**

Type USNM 477502, adult ♂, collected at Puerto Princesa, Palawan, Philippines, on May 22, 1962, by D. S. Rabor.

DIAGNOSIS: Much more heavily and blackly streaked dorsally than *fuscicapilla* and more so than in most Luzon specimens, with the edgings of these dorsal feathers colder and less rufescent than in either *fuscicapilla* or *tinnabulans*; the rump color differs in the same way. Underparts whiter than in most Luzon specimens, more like *fuscicapilla* in this.

RANGE: Island of Palawan. Birds from the Calamianes group, between Palawan and Mindoro, usually belong to Palawan subspecies. Unfortunately, only a single specimen of *Cisticola exilis* has been available from these islands, CM 138270 from Culion. It exhibits the heavy black dorsal streaking of *nigrostriata,* but the general ground color of the upperparts (except for the crown) does not exhibit the cold tones typical of that race. However, it was collected in 1892, whereas most of the Philippine material used for comparison is much more recent; so the rufescence of the back and rump of this specimen may represent "foxing." On the other hand, the birds of the Calamianes may ultimately prove to be intergrades between *nigrostriata* and the Philippine birds currently called *tinnabulans.*

ETYMOLOGY: The subspecific name is taken from the Latin *niger,* black, and *stria,* furrow or stripe, referring to the heavy black dorsal streaks of this race.

GENERAL REMARKS ON CISTICOLA SP. IN THE PHILIPPINES: The two species of this genus found sympatrically in the Philippines, *C. juncidis* and *C. exilis,* are quite distinctive in the hand, but a surprising number of specimens in collections have been misidentified; for example, the Culion skin of *juncidis* just mentioned was identified by the collectors, Bourns and Worcester, as *exilis.* They are readily separable by tail pattern: *juncidis* has a pure white terminal and sharply defined black subterminal band on the rectrices, a pattern never present in *exilis.* Gilliard (1950:495) commented on the difficulty of collecting both of these species; during his Bataan expedition he secured only one *juncidis* and three *exilis.* This difficulty is a function of season. Gilliard was collecting in November and December. I collected these warblers in several provinces of central Luzon (Tarlac, Pampanga, Rizal, Cavite) on dates ranging from August 4 to September 13, just at the end of the breeding season. At this time both species were still singing and could also easily be located by their call notes. They responded quickly to a "squeak," and would usually remain more or less in the open for some time, scolding the intruder, before disappearing back into the grass. Although I collected only four *exilis* and five *juncidis,* I could readily have obtained more if I had made a special point of getting *Cisticola.* On Mindoro, according to Ripley and Rabor, *exilis* prefers drier, somewhat more upland areas than *juncidis,* although both may be found in the same tract of grassland. In the vicinity of Clark Air Force Base, Pampanga Province, my notes state, "Although virtually side-by-side with *exilis, juncidis* seems to prefer shorter grass." On the other hand, at Novaliches, Rizal Province, where I collected one each of the two species, my notes state, "Little or no ecological separation here—both species side-by-side."

Cisticola exilis semirufa Cabanis, 1866

The Philippine population of the Golden-headed Fantail Warbler has appeared in most of the literature under the name *C. e. rustica* Wallace, 1863, of which the type locality is Buru Island in the Moluccas. I have compared a total of 11 Buru Island, 8 Celebes, and 24 Philippine specimens (AMNH + ANSP) and find that the name *semirufa* Cabanis (type locality Luzon) should definitely be revived for the Philippine birds. Dorsally, Philippine specimens are paler rufous on the crown and have the edges of the streaked feathers of the back grayer; there is more contrast between the color of the crown (more rufous) and the ground color of the back (less rufous) in *semirufa* than in *rustica.* Ventrally, Philippine birds are whiter, less completely suffused with rufous, plumage for plumage. This is true even of birds in juvenal plumage. Two juveniles from Buru (AMNH) are pale lemon-yellow below, with no white; whereas CM 137026, from Novaliches, Rizal Province, Luzon, is whitish below, faintly washed with yellow, heaviest on the breast but pure white on the midabdomen.

Phylloscopus olivaceus (Moseley, 1891), *Phylloscopus cebuensis* (Dubois, 1900), and *Phylloscopus trivirgatus* (Strickland, 1849)

Rand and Rabor (1952) were the first to demonstrate that there are two endemic Philippine species of *Phylloscopus* that had previously been confused, all passing under the name *P. olivaceus*. They revived the name *cebuensis* for the second species, which they considered to be monotypic and confined to Cebu (type locality) and Negros. *P. o. olivaceus* was assigned to Samar (restricted type locality), Negros, Mindanao, and the Sulu Archipelago. A new subspecies, *P. o. luzonensis,* was named, with the type locality Massisiat, Abra Province, in northwestern Luzon. The range was given as "probably Luzon only," and the only localities cited were Abra Province and "central Luzon," with the statement that "there is little difference between northern and central Luzon birds. Skins taken many years ago have the grays slightly duller and the yellow somewhat warmer than in fresher skins." It was not stated whether the new and old samples came from the same or different areas of Luzon, and the source in "central Luzon" was not given.

Rand and Rabor considered "the possibility of relating *luzonensis* with *cebuensis,* rather than *olivaceus*." They considered the new subspecies "in some ways. . .equally close to both." Their final decision was made on the basis of geographical distribution; *luzonensis* "seemed to be better considered a representative of *olivaceus* and that led [them] to unite it with *olivaceus*."

In a more recent paper, Rand and Rabor (1967) described a new southern Luzon subspecies as *sorsogonensis* and placed it in the species *P. cebuensis.* Their entire discussion of species relationship is as follows: "It seems advisable to consider *cebuensis* a species with three races: *sorsogonensis,* yellowest race, southern Luzon; *cebuensis,* medium yellow, Negros; *luzonensis,* least yellow race, northern Luzon. *P. olivaceus* is thus left as monotypic." The range of *sorsogonensis* was given simply as "southern Luzon in Camarines Sur and Sorsogon Provinces"; the identity of central Luzon birds was not discussed. No explanation of why "it seems advisable. . ." was presented, no rationale for reversing their decision on the relationships of *luzonensis* was given, and no species characters differentiating *olivaceus* and *cebuensis* were listed.

Some years earlier, in studying the AMNH and CM material, I had come to the conclusion that *luzonensis* Rand and Rabor had been described in the wrong species and was, in fact, a race of *cebuensis* rather than of *olivaceus.* The following characters distinguish *olivaceus* from all of the races, collectively, of *cebuensis*: throat white rather than yellow; crown grayer, less green; postocular line obscure and white rather than well developed and yellow; light tips of greater wing-coverts forming a single wing bar (absent in *cebuensis*).

As for the identity of central Luzon specimens of *P. cebuensis,* I sent Dr. Rand two Laguna Province specimens for comparison with his series of Abra Province *luzonensis* and his series from southernmost

Luzon (which, although not yet described, I had seen in the FMNH in 1963 bearing the manuscript name *"sorsogonensis"*). Rand (letter of November 17, 1965) described these birds as follows: "As you suspected, they are intermediate between the pale grayish birds from the extreme north and the more richly colored birds from the extreme south. This results in the very unsatisfactory situation of the central Luzon birds being very similar to Negros birds." My own notes indicate that three Bataan Province specimens in the AMNH are "dingier and less yellow" than the series from the vicinity of Laguna de Bay, indicating that they are closer to *luzonensis* of northern Luzon.

The two species are sympatric on Negros. Rand and Rabor (1952) found them both at Tolong, 1500–2000 feet, and at Bais, 1000 feet. They considered *P. cebuensis* on Negros as apparently "a higher altitude species with a partial overlap, at least, with the lower altitude *P. olivaceus.*" The zone of overlap reaches a substantially higher elevation. YPM 23762, originally identified as *cebuensis,* is a specimen of *olivaceus* collected by Rabor at Pula, Canlaon, May 2, 1953, at 4000 feet. A specimen of *cebuensis* was collected the same day at 4200 feet, and other *cebuensis* were collected on other days in this area at 3700 feet.

My comparison of specimens of *Phylloscopus olivaceus* from Samar, Negros, Mindanao, Jolo, and Tawi-Tawi shows that this species does not vary geographically through a large area of the central and southern Philippines; the two specimens examined from the Sulu Archipelago are completely inseparable from Samar birds. It would appear that *P. olivaceus* is a relatively recent invader of the Philippines; whereas *P. cebuensis,* with its Cebu-Negros and geographically variable Luzon populations, is a relict. This is further suggested by the fact that the populations of *P. cebuensis* on Luzon, where *olivaceus* is absent, have a fairly wide altitudinal range; whereas on Negros *cebuensis* is primarily a highland form, *olivaceus* is primarily a lowland form. This is a pattern that might be expected if the more recent occupant, *olivaceus,* is a more successful species, "driving" *cebuensis* to higher altitudes where they are sympatric. The lack of geographic variation in *olivaceus* is also suggestive of relatively recent arrival in the Philippines.

These two Philippine species belong to the same general group as *Phylloscopus trivirgatus* and its close relatives. The nearest to *olivaceus* in every way is *maforensis* (Meyer, 1874), of Numfor Island in Geelvink Bay off northern New Guinea; this form was placed by Mayr (1941:126) in the *trivirgatus* superspecies, but placed as a subspecies of *trivirgatus* by Rand and Gilliard (1968:372). The latter authors called *maforensis* "very different from other races [of *trivirgatus*]"; and, indeed, in reading their description one would almost think they had specimens of *olivaceus* before them. The differences between *olivaceus* and *maforensis* are minor differences of degree; the latter is simply a somewhat grayer (less green and yellow) edition of *olivaceus.* Like both *olivaceus* and *cebuensis,* and unlike most races of *trivirgatus, maforensis* has a large bill with a pale lower mandible. It is difficult to interpret this similarity, although conspecificity of *olivaceus* and *maforensis* is not beyond the realm of possibility.

Phylloscopus trivirgatus itself is a tremendously complicated species. There is a tendency in many of the races toward much individual variation, seemingly not associated with age or sex, in the amount of yellow on the underparts. Some races show scarcely any variation; whereas others, such as *capitalis* of northern Celebes, show an almost continuous gradation between birds with a white superciliary, white throat and cheeks, white underparts streaked with yellow, and a brownish gray crown to those of the opposite extreme with yellow superciliary, yellow of the underparts expanded to eliminate virtually all of the white, and a more greenish crown. In the Philippines, this tendency reaches its extreme manifestation in the subspecies *malindangensis,* which divides almost completely into two color types, yellow and gray, with only a very few equivocal specimens (which, however, are enough to show that the yellow and gray types are not another case of undetected sympatric species). Elsewhere in the Philippines, *P. trivirgatus* is supposed to be represented by the yellow forms *nigrorum* (Negros), *benguetensis* (northern Luzon and Mindoro), and *peterseni* (Palawan) and a rather distinct group of four Mindanao races, *mindanensis, malindangensis, diuatae,* and *flavostriatus.* These four collectively differ, as pointed out by Salomonsen (1953), in averaging browner above, lacking a wing bar, and having white spots on the inner webs of the rectrices. In these characters they resemble a group of subspecies including *floris* of Flores, *presbytis* of Timor, and *sarasinorum* of southern Celebes. In several ways, the "yellow" group of subspecies resembles *olivaceus* and *cebuensis* more than it does the other Philippine populations of the species *P. trivirgatus*; yet *P. olivaceus, P. c. cebuensis,* and *P. t. nigrorum* are all sympatric on Negros.

The differences between the sympatric species *olivaceus* and *cebuensis* are sufficiently subtle so that their distinction was overlooked for many years. Nevertheless, populations far more different in appearance are presently included within the single polytypic species *P. trivirgatus.* It appears to me to be quite possible that the checkerboard distribution of "kinds" of races of *trivirgatus* on mountains and islands within the range of the "species" as a whole may prove to be explainable if the existence of more than one species is postulated. Many of the mountains and islands can support only one *Phylloscopus* of this group; through some form of competitive exclusion, the single form at any given locality may be either the original or a replacement inhabitant. The "successful" form at any locality may have derived from one of several different stocks (= species), not necessarily the same as that giving rise to its nearest neighbor. Calling all of these one species (i.e., *Phylloscopus trivirgatus*) simply because they are geographic replacements is almost certainly an oversimplification. I fully agree with Mayr (1944): "How the various forms of the *trivirgatus* group should be arranged into species can be determined only in the course of a revision of the whole group." In such a revision, whenever some brave soul undertakes it, the relationship of the Philippine forms *olivaceus* and *cebuensis* to the *trivirgatus* group must be taken into account.

***Orthotomus derbianus* Moore, 1854, and *Orthotomus atrogularis chloronotus* Ogilvie-Grant, 1895**

I have already (Parkes, 1960b:76) pointed out that the distribution on Luzon of gray-backed (*derbianus*) and green-backed (*chloronotus*) tailorbirds is more complicated than indicated by Delacour and Mayr (1946:201–202). They state that *chloronotus* is found in "northern Luzon, south about to hills east of Manila," while *derbianus* is attributed to "southern Luzon, from Manila southward, Catanduanes." I know of no specimens justifying the attribution of the green-backed form as far south as the "hills east of Manila" in existence at the time Delacour and Mayr wrote their book. Gilliard (1950) discovered the population of *chloronotus* on the Bataan Peninsula, west across Manila Bay from Manila. This peninsula represents the southern tip of the Zambales Mountains, in which little or no collecting has been done; and it is not known which form of tailorbird exists in these mountains north of Bataan. The Bataan population is separated from the main range of *chloronotus* by populations of *derbianus* extending north from Manila at least as far as Bayambang, Pangasinan Province (USNM). Until recently, I had seen specimens of *chloronotus* from as far south as Sablan, Benguet Subprovince, Mountain Province, and Dalton Pass, on the border between Nueva Vizcaya and Nueva Ecija. The specimens from the isolated population from Bataan cannot be distinguished either in color or in size from northern *chloronotus*.

Gilliard (1950:497) thought that *chloronotus* and *derbianus* "would certainly seem worthy of specific distinction" were it not for two specimens that he considered to represent intermediates between these two forms: AMNH 296293 from Antipolo, Rizal Province, and AMNH

592414 from "southern Luzon"; these, according to Gilliard, have "an almost equal amount of gray and green" on the back. I have examined both of these specimens and find them to be immature; a greenish wash on the back is typical of young tailorbirds of gray-backed forms of this group. Both specimens are referred to *derbianus.* Hachisuka (1930:196) described two specimens collected at Aloneros, Tayabas (= Quezon) Province, in southern Luzon. One he called *chloronotus,* although he describes it as having a "slate black" back; he appears at that time to have been unaware of the existence of *derbianus.* The other Aloneros specimen, on the basis of comparison with a colored plate of *chloronotus,* seemed also to be referable to that form. I have examined these specimens, now respectively SDR 1206 and SDR 1203. The former is an unsexed adult of *derbianus*; the latter is a juvenile male *derbianus,* labeled "*chloronotus.*"

There are thus no specimens that show intermediacy between *derbianus* and *chloronotus.* In my 1960b paper I predicted that "it is highly possible that the two forms may prove to be sympatric in parts of central Luzon." This prediction was realized with the receipt by the DMNH of typical specimens of both *derbianus* and *chloronotus* from Pangil and Pakil, Laguna Province, on the east side of Laguna de Bay. This is far south of any previously known locality for *chloronotus.* A specimen of this form from Casiguran, northernmost Tayabas (= Quezon) Province (USNM) suggests, however, that *chloronotus* may follow the Sierra Madre south along the east side of Luzon, with *derbianus* meeting it from the west and south at the newly discovered area of sympatry in eastern Laguna Province. In any case, it is clear that the two forms must now be considered to be separate species.

The next question, of course, is nomenclatorial. Which of the two forms is to be considered conspecific with the tailorbirds of this group on the other islands of the Philippines? The decision is by no means as clear-cut as was the allocation of *luzonensis* to one or another of the sympatric species of *Phylloscopus.* In addition to its green back, *chloronotus* differs from *derbianus* in having bright yellow rather than white wing linings and yellow-green upper and under tail-coverts; the base of the rectrices is also greenish. Wing-lining color in other races of tailorbird varies between white and yellowish, and several races have the back partly gray. Only in *derbianus,* however, is any hint of green completely absent from the tail and its coverts. The differences in color between *derbianus* and *chloronotus,* some of which are bridged by populations on other islands, suggest, in fact, that some reinforcement ("character displacement") may have taken place on Luzon. It appears probable that the populations of other islands are more nearly related to *chloronotus* than to *derbianus*; so the former is here considered to be the Luzon representative of the species *Orthotomus atrogularis,* with *O. derbianus* a separate species.

The only species of tailorbird hitherto reported from the island of Palawan is *O. sericeus*; no representative of the *atrogularis* superspecies has been known to occur there. A specimen of *O. derbianus* in the DMNH collected by John E. duPont at Puerto Princesa, Palawan, July 21, 1958, must, in the absence of other evidence, be considered a stray.

Rhipidura cyaniceps cyaniceps **(Cassin, 1855)**

A series of specimens recently received by the AMNH from the Sierra Madre of Isabela Province in northeastern Luzon shows no approach at all to *R. c. pinicola* Parkes, 1958, which is apparently confined to the highlands of northwestern Luzon.

Cyornis lemprieri **Sharpe, 1884, and** ***Cyornis herioti*** **Ramsay, 1886**

The endemic blue flycatcher of Palawan, *lemprieri,* has been associated in much of the literature of *Cyornis* with the widely distributed species *C. banyumas* (*cf.* Delacour and Mayr, 1946:277; Vaurie, 1953:504). Stresemann and deSchauensee (1936:341) state that they regard *C. lemprieri* as a distinct species and not a race of *banyumas,* but they give no details as to their reasoning. The placement of *lemprieri* with *banyumas* appears to be based primarily on the fact that both have brown rather than blue-backed females. In the assessment of the relationships among certain of the species of *Cyornis,* however, the color of the females seems to be of little importance. The Borneo lowland species, *C. caerulata* (also specifically excluded from the *banyumas* group by Stresemann and deSchauensee), has a female intermediate between the brown and blue types (head and foreback brown; tail blue; rump, lower back, and wings washed with blue). Females of the subspecies *C. b. banyumas* and *C. b. cantatrix,* both of Java, have a decided bluish cast to the gray of head and back (contrary to the description of Delacour [1947:290], who described females of *C. banyumas* subsp. simply as "entirely brown above"). Finally, some female specimens of *lemprieri* (notably AMNH 468257 and CM 100783) may have some blue or bluish feathers on the head. There is thus no clear guide to relationships to be found in the color of females in this group.

There is a clearly defined difference in the *pattern* of the face of females of *lemprieri* on the one hand and females of all races of both *banyumas* and *rufigastra* on the other. In *lemprieri* there is a well-developed white eye-ring; the lores are *black,* bordered above by a white line from the base of the bill almost to the upper edge of the eye-ring. In the other forms, the lores are white (or pale), and there is no well-defined eye-ring. The bill of *lemprieri* is larger and heavier than that in any of the examined races of *banyumas,* except the nominate race of eastern Java. The brown area of the breast is more restricted and more clearly defined than in any race of the *banyumas* or *rufigastra* groups (both of which have both white-bellied and tawny-bellied races).

Although they differ in ecology in areas where both are found (*cf.* Borneo; Smythies, 1960:446–447), there seems to be little doubt that *C. rufigastra* and *C. banyumas* are closely related, as indicated by Vaurie (1953:509); but *C. lemprieri* of Palawan is *not* part of this group.

Another Philippine endemic species is *Cyornis herioti,* which appears to be confined to Luzon. Its affinities have been the subject of some debate. Robinson and Kinnear (1928) considered both *herioti* and *C. hainana* (Ogilvie-Grant, 1899) of south China and Hainan to be conspecific with *C. pallipes* (Jerdon, 1840) of India. This view was disputed by Stresemann and deSchauensee (1936:338), who felt that *herioti, hainana,* and *pallipes* were all separate species, not particularly closely related to one another within the genus *Cyornis.* Vaurie (1953:509) returned to the earlier view, although preferring to consider the three as closely related species rather than as conspecific. Stresemann (1925:48) suggested tentatively that *herioti* might belong to the *banyumas* group, and this suggestion was repeated by Mayr (*in* Delacour and Mayr, 1945:114).

The interpretation of Stresemann and of Mayr is, I believe, the correct one, but only insofar as *herioti* is the representative on Luzon of *Cyornis lemprieri* which, as indicated previously, is *not* a race of *banyumas.* When females of *lemprieri* and *herioti* are compared, the resemblance is unmistakable, *herioti* being merely a more pigmented version. The facial pattern of eye-ring, line from base of bill to upper edge of eye-ring, and dark lores described earlier for *lemprieri* is identical in *herioti,* except that the light areas are buff instead of white. In both forms, individual variation in females is manifested in traces of blue appearing in the area of the forehead where this color is normally found in males (compare *herioti* AMNH 450758 and *lemprieri* CM 100783). The general size, bill proportions, etc., of the two forms are quite similar. Statements in the literature about the differences in color between males of the two forms (*herioti* with throat and breast blue rather than orange-buff as in *lemprieri*) were rendered obsolete with the discovery of the interesting *Cyornis herioti camarinensis* (Rand and Rabor, 1967) of southernmost Luzon, which has the "throat pale ochraceous and upper breast buffy-rufous tinged with dusky."

As will be mentioned further, the pattern of the juvenal plumage seems to be a good clue to relationships among these blue flycatchers. That of *herioti* (exemplified by AMNH 767958, in full juvenal plumage) and *lemprieri* (USNM 161501, in first prebasic molt) is, as far as can be told with the specimens available, closely similar. Although I have not compared these with juveniles of true *banyumas,* the young *herioti* and *lemprieri* differ collectively in several respects from the juvenile of *rufigastra* (as exemplified by DMNH 1163, *"litoralis"* = *philippinensis,* and CM 137123, *simplex*). In the latter species the dorsal spots are smaller, brighter, more orange-brown, and more linear on the crown; moreover, they form more clearly defined wing bars on the greater and median wing-coverts.

In view of the opinions of Robinson and Kinnear and of Vaurie, the possible relationships of *C. herioti* to *C. hainana* and *C. pallipes* merit a brief examination. Here the juvenal plumage again offers important evidence. That of *herioti* is typical of most muscicapine flycatchers in being heavily spotted above and below (or at least in having dark edgings on the underparts feathers, giving the appearance of spottedness). The juvenal plumage of *C. hainana* (AMNH 418451; USNM 304348, 350216) is quite different. The crown varies in the three specimens examined from having small dense spots not unlike those of other species to having nothing more than pale shaft streaks to the forehead feathers. The dorsum, however, is almost completely unmarked; and the underparts are white, stained with buff across the chest. I have not seen juveniles of *pallipes.* The closest approach to the juvenal plumage of *hainana* among species examined is that of *C. rubeculoides* (AMNH 605332), which has the spotting somewhat better developed, but much less than in other species. In adults, too, I am struck more by the resemblance of *hainana* to *rubeculoides* rather than to either *herioti* or *pallipes.* The females are somewhat similar in color and pattern, and the males are not dissimilar in spite of the orange-brown breast of male *rubeculoides.* They agree in having the bend of the wing bright blue, which is not true of *pallipes* males. The males of *hainana* show an indication of the bright blue rump of *rubeculoides,* which is also absent in *pallipes.* The latter is a very much stronger-billed bird than either *rubeculoides* or *hainana.* In view of the resemblances between both adults and juveniles, I suggest that *hainana* has its closest relationships with *rubeculoides,* not with either *herioti* or *pallipes.* This is contrary to the opinion of Vaurie (1953) but, interestingly enough, reverts to the viewpoint of Delacour (1932:433–435), who believed that *rubeculoides* and *hainana* were conspecific. I have not studied *pallipes* sufficiently to comment further on its relationships, but I do not consider it conspecific with *herioti.*

In view of the marked resemblance in females and the intermediate coloration of *C. h. camarinensis,* it is tempting to consider *Cyornis herioti* conspecific with *C. lemprieri.* In view of the distributional gap, I prefer for the time being to consider these two as members of a superspecies. Within *C. herioti,* some authors (*cf.* Rand and Rabor, 1967) have recognized a northeastern subspecies, *enganensis* (Ogilvie-Grant, 1896). I have compared specimens from the purported ranges of *herioti* and *enganensis* and find absolutely no basis for separation; I recognize only *C. h. herioti* and *C. h. camarinensis.*

Cyornis rufigastra (Raffles, 1822)

In an earlier paper (Parkes, 1965:61), I discussed some of the Philippine populations of this species and explained my preference for the generic name *Cyornis* for the blue flycatchers rather than *Muscicapa* or *Niltava,* used by other recent authors.

The name *simplex* Blyth, 1870, has been in general use for the Luzon race of *Cyornis rufigastra.* Blyth believed his specimens to have come from Borneo; this was corrected to Luzon by Robinson and Kinnear (1928:246). The original description of *simplex* is deficient in several respects. In view of the uncertainty of the origin of the type specimen, I asked Dr. G. F. Mees of the Rijksmuseum van Natuurlijke Historie in Leiden to reexamine it for me. He writes (letter of October 4, 1971) that he is satisfied that the specimen is, indeed, a female of one of the Philippine populations of *Cyornis rufigastra* and that historical evidence suggests that the specimen came from the vicinity of Manila.

Delacour and Mayr (1946:211) list only Luzon and Marinduque as the range of *C. r. simplex;* but, as indicated by Manuel (1957), it occurs on Polillo as well. I have examined a series of eight specimens from Polillo; these differ in neither color nor size from Luzon specimens of *simplex.*

The subspecies *mindorensis* Mearns, 1907, has received general recognition; in fact, both Stresemann (1925:50) and Hachisuka (1935:292) synonymized *simplex* with *philippinensis* Sharpe, 1877, while recognizing *mindorensis* (Stresemann was uncertain about the identity of *simplex* and therefore did not use the name; Hachisuka simply erred in using the junior name, as he did not query the identity of *simplex*). In point of fact, the north and south Philippine races are quite distinct, as described by Robinson and Kinnear (1928:246–247); but *mindorensis* is a very weak race. Ripley and Rabor (1958:59) give a series of characters to differentiate Mindoro birds from *philippinensis* but fail to compare them with *simplex*. In spite of claims to the contrary in the literature, the color of the throat, breast, and back of *mindorensis* can be completely matched in series of Luzon *simplex*. The *only* character by which *mindorensis* can be distinguished is the color of the under tail-coverts. In most *simplex* these feathers are white, although in some there is a faint wash of orange-rufous. In *mindorensis* the under tail-coverts are distinctly of this orange-rufous color, more markedly in females.

The alleged Palawan subspecies *litoralis* Stresemann, 1925, is very rare in collections. I have compared a small series from the DMNH and the BMNH with good series of the other races and regard *litoralis* unequivocally as a synonym of *philippinensis*. I had come to this conclusion before I found that *litoralis* had already been refuted by its author (Stresemann and deSchauensee, 1936:341).

Culicicapa ceylonensis (Swainson, 1820)

All of the standard literature of Philippine birds, dating at least as far back as 1889, credits the Gray-headed Canary-Flycatcher as having been recorded from the island of Palawan. Several authors, myself included (Parkes, 1960c), have commented on the "fact" that *Culicicapa ceylonensis* and *C. helianthea* are sympatric on Palawan. McGregor (1909:472) lists Platen as the collector of the species on Palawan, and he is followed in this by Hachisuka (1935:337). In his report on the Platen collection from Palawan, Blasius (1888:310) lists *Culicicapa panayensis* (Sharpe, 1877) (= *C. helianthea panayensis*) but says nothing about *C. ceylonensis*.

The earliest reference I can find to the supposed presence of *C. ceylonensis* on Palawan is in a table published by Everett (1889), only a year after the Blasius paper appeared. Everett's tables of the Palawan avifauna include both *C. ceylonensis* and *C. panayensis*; so this listing was not just a simple misreading of the name given in the Blasius paper.

I have found no other documented record for *C. ceylonensis* from Palawan, an island that has been visited by many collectors since Platen. Dr. Erwin Stresemann was kind enough to write on my behalf to the Staatliches Naturhistorisches Museum in Braunschweig, where Platen's specimens are deposited. The only Palawan specimen of *Culicicapa* collected by Platen present in the collection or listed in the catalogue is no. 14212, an example of *C.h. panayensis*.

There is thus no proof for the existence of *C. ceylonensis* on Palawan, and the species should be deleted from the Philippine list; further, this means that the two species of *Culicicapa* are nowhere sympatric.

Motacilla flava taivana (Swinhoe, 1863)

Vaurie (1959:82) listed Palawan in the winter range of this subspecies and also "Philippines (probably)." On September 20, 1956, I collected an immature female *taivana* (CM 137232) in a rice paddy at Tagig, Rizal Province, Luzon. The specimen was identified using comparative material at the AMNH. This subspecies, which, as Vaurie points out, has been kept in a separate species from *flava* by several authors, differs from *simillima* Hartert, 1905 (the commonest wintering race in the Philippines) of the same age and sex in having a distinctly yellow rather than white eye stripe. The dorsal color is heavily washed with yellow, rather than the gray or brown of *simillima*. The two other races that have been reported from the Philippines (Grant and Mackworth-Praed, 1952) are *tschutschensis* Gmelin, 1789, and *macronyx* (Stresemann, 1920). The former is even less yellowish than *simillima,* and in the latter the eye stripe is virtually obsolete. Peters (1939:115) was unable to identify two May 1 specimens from Mindoro with any known breeding population of this species.

Anthus novaeseelandiae sinensis (Bonaparte, 1850)

Gladkov (*in* Dementiev and Gladkov, 1954) ascribes the Philippines to the winter range of this subspecies in both map (p. 650) and text (p. 653) (although, oddly, Harber [1955:452] states erroneously that the Philippines are not mentioned in the text). This migratory race is quite different from the resident Philippine race *A. n. lugubris* (Walden, 1875), especially in its decidedly longer wings. I have seen no specimens nor specific published record for *sinensis* from the Philippines, although its winter range as given by Vaurie (1959:62) indicates that such an occurrence would not be unlikely. I would appreciate having any Philippine specimens of this race called to my attention.

Anthus gustavi gustavi Swinhoe, 1863

Gilliard (1950) did not list this species in his paper on the birds of Bataan, Luzon. However, AMNH 459390, taken by Gilliard at Lamao, December 15, 1947, is *A. gustavi* rather than *A. hodgsoni* as labeled. The rest of Gilliard's series of eight *hodgsoni* are correctly identified and listed on page 491 of his paper.

Sarcops calvus (Linnaeus, 1766)

Some years ago, a great flurry of papers appeared discussing geographic variation in this species (Gilliard, 1949b; Rand, 1951; Parkes, 1952; Salomonsen, 1952; Amadon, 1956). Since that time, several museums have received new material, and I have gone over the question again. This study has not resulted in any name changes; I would still follow the nomenclatorial treatment of Amadon (1956), in which only three subspecies are admitted. The new material, however, gives a better insight as to the nature of the geographic variation. The excellent series from Leyte now available (I utilized 11 specimens, all collected between 1945 and 1961) make it clear that, although Davao, Mindanao, is the type locality of the black-backed form *S. c. melanotus* Ogilvie-Grant, 1906, the center of *differentiation* is obviously Leyte. I examined only one Bohol specimen, but examination of Samar and Mindanao birds makes it clear that the farther from Leyte, the less consistently black-backed these starlings are. The amount of variation on other islands does, as both Rand (1951) and Amadon (1956) indicate, militate against the use of any additional names. It is merely that Leyte is the geographic center of the black-backed character; and the birds of Davao, the type locality of the name *melanotus*, are somewhat intermediate. There are two centers of extreme silver-backedness, at the opposite ends of the species' range—north Luzon and the Sulu Archipelago, with the birds of the latter region (*S. c. lowii* Sharpe, 1877) exhibiting the extreme manifestation of this character. Salomonsen's (1952) description of *S. c. samarensis* was an attempt to push closer to the center of "black-backedness"; but he did not go far enough, not having seen Leyte specimens.

Some small errors in the literature remain to be corrected. Contrary to Salomonsen (1952:361), Samar birds do have the white "shaft-streaks" on the throat, which Rand (1951) showed correctly to be filoplumes whose apparent absence is seasonal, as they wear or break off easily. Amadon (1956:11) described the bare areas on the head of *Sarcops* as "yellowish, perhaps not so bright as in [*Basilornis*] *mirandus*." Delacour and Mayr (1946:244) state that this bare area is "pinkish flesh-colored," and my field notes on the two specimens collected during my 1956 expedition give the color as "flesh pink."

***Anthreptes malacensis* (Scopoli, 1786)**

This is a highly plastic species, with many island races both in and beyond the Philippines. Two recent treatments of its races demonstrate diametrically opposed taxonomic philosophies. Salomonsen (1953) approached it from the viewpoint of a "splitter" (at least at the subspecific level); whereas Rand (1967:211–214) preferred to suppress many subspecific names. In studying geographic variation in this species in the

Philippines, I have used principally the combined AMNH and CM collections, numbering 125 specimens in all, plus long series of non-Philippine specimens in the AMNH. The extensive "lumping" of Rand's list appears to represent an unnecessary oversimplification. If populations are characterized by the possession of consistent features of taxonomic use that differentiate them from other populations, with discrete ranges, the fact that such populations may be rather numerous (thus resulting in numerous names) is *not* justification for suppression of these facts through "lumping"; quite the contrary, as the very fact of such polytypy is an interesting aspect of a species and may suggest something of its history, especially in contrast to equally wide-ranging species in which such variation cannot be demonstrated.

Both Salomonsen and Rand agree that there are three subspecies groups within *Anthreptes malacensis*. The *malacensis* group is characterized by iridescent violet anterior upperparts and reddish brown throats in adult males; the *chlorigaster* group, with similar throats and bottle-green iridescence; and the *griseigularis* group, with bottle-green iridescence and gray throats. In the green-backed groups, the rump is violet and contrasts abruptly with the mantle, which usually looks green from any angle. In some (worn?) individuals of the *malacensis* group, the mantle can look quite greenish from some angles, but turning in the light will show that the pure violet feathers of the rump do not contrast with the more variable anterior feathers as abruptly.

Within the violet-backed group, Rand recognizes only nominate *malacensis*, synonymizing nine proposed subspecies. Salomonsen (1953:-246–247) does not discuss most of these, mentioning only *bornensis* Riley, 1920 (which he and several other authors, but not Rand, consistently misspell "*borneensis*") and *paraguae* Riley, 1920. He considered the former inseparable from *malacensis* and the latter a "very poor subspecies" that might better be included in the nominate race. Contrary to Salomonsen, I find *bornensis* different from *malacensis*; males have the sides of the face redder (as described by Riley), the red of the scapular region decidedly darker, and the greater coverts edged with dark red instead of greenish. The Palawan race *paraguae,* as stated by Salomonsen, has the underparts in both sexes distinctly darker, more olive-green, and less yellow than in topotypical *malacensis*. This character must be used with care, comparing specimens of similar museum age. Comparison of four *paraguae* taken in 1891, four in 1916, and four in 1955 shows clearly that the underparts become progressively greener, less intensely yellowish, with age. In addition to the underparts character, *paraguae* also differs from *malacensis* in having the edgings of the remiges somewhat darker and more reddish. From *bornensis,* its nearest neighbor to the south, *paraguae* differs in less intensely yellow underparts and somewhat greener, less reddish cheeks in males.

Salomonsen states that a specimen from Sibutu, the westernmost island in the Sulu Archipelago, is *malacensis* "or comes very near to it." Rand includes Sibutu in the range of *malacensis* without comment. In a comparison of three AMNH specimens from Sibutu with topotypes of *malacensis* and with specimens from other islands in the Sulus, it became apparent that Sibutu birds are not *malacensis* but form an interesting link between the violet-backed *malacensis* group and the green-backed *chlorigaster* group, but with some nonintermediate characters of their own. The Sibutu population may be called:

Anthreptes malacensis iris **new subspecies**

Type AMNH 685721, adult ♂, collected on Sibutu Island, Sulu Archipelago, Philippines, July 1893, by A. Everett.

DIAGNOSIS: Male with feathers of crown and anterior back with *alternating bands* of green and violet iridescence, producing an overall optical effect of steel-blue. Underparts intermediate in color between the rather bright yellow of *malacensis* and the dull greenish yellow of *wiglesworthi* of the rest of the Sulus, but flanks and under tail-coverts paler and grayer than in either of these races—the under tail-coverts grayish cream color with almost no yellow; sides of the face of males near *wiglesworthi* in reddish color, not dark olive-green as in *malacensis*. The one available female of *iris* is nearest *malacensis* in yellowness of underparts and in lacking the decided reddish wash of the edges of rectrices, tertials, and wing-coverts found in *wiglesworthi;* it resembles the male in that it has grayer flanks and under tail-coverts than do females of the other two races under consideration. An unsexed juvenile, compared with specimens of similar age from Malacca, is browner and duller on the back, with light edges of the wing and tail feathers much darker and less contrasting, and has the under tail-coverts paler, less yellow. No juveniles of *wiglesworthi* were available for comparison.

RANGE: Sibutu Island, westernmost Sulu Archipelago, Philippines. A male from Bongao, the next island northeastward in the Sulu chain, is exactly intermediate between *iris* and *wiglesworthi* in the color of the underparts, including the under tail-coverts. The anterior upperparts are largely green, but with a small admixture of purple. A female from Bongao, however, is virtually indistinguishable from *wiglesworthi* of Jolo.

ETYMOLOGY: This subspecies is named for Iris, the classical goddess of the rainbow, in reference to the multicolored iridescence of the dorsal plumage.

The male from Bongao just mentioned is quite similar in color, above and below, to *A. m. cagayanensis* Mearns, 1905, from the outlying island of Cagayan Sulu, but the latter has the edgings of the remiges and wing-coverts olive, without the reddish color found in *wiglesworthi.*

Rand synonymizes *A. m. wiglesworthi* Hartert, 1902 (type locality Sulu) and *A. m. heliolusius* Oberholser, 1923 (type locality Basilan) with *A. m. chlorigaster* Sharpe, 1877 (type locality Negros), thus recognizing only two Philippine subspecies, *chlorigaster* and *cagayanensis,* within the *chlorigaster* subspecies group. Salomonsen, on the other hand, admits both *wiglesworthi* and *heliolusius.* I agree with Salomonsen that these two races are quite similar to each other. They can be recognized, however, not only by the characters he mentions, but also by the color of the edgings of the remiges, which corresponds to the difference in cheek color of males—*heliolusius* being more greenish and *wiglesworthi* more reddish.

True *A. m. chlorigaster* is an uncommon bird in collections. The few specimens I have seen, however, show that it is better differentiated from *heliolusius* and *wiglesworthi* than indicated by Salomonsen (1953:-248–249). Salomonsen stated that *heliolusius* differs from *chlorigaster* only in its more yellowish, less olive underparts. Although this is, on the average, true, this is by no means the best character separating the two races. In the first place, *chlorigaster* has reddish cheeks like *wiglesworthi* (perhaps even redder), not olive like *heliolusius;* and *chlorigaster* differs from both *wiglesworthi* and *heliolusius* in having the red of the wing-coverts and edgings of the remiges very much darker, scarcely contrasting with the blackish brown of the remiges themselves.

There are two races of the gray-throated *griseigularis* subspecies group, both recognized by Rand. These are *A. m. griseigularis* (Tweeddale, 1877), from northern Mindanao, Samar, and Leyte (the species does not seem to have been recorded from Bohol), and *A. m. birgitae* Salomonsen, 1953, from Luzon and possibly Mindoro (where it is apparently very rare). The gray-throated *griseigularis* and the reddish brown-throated *heliolusius* of Basilan and western Mindanao meet and intergrade in central Mindanao (Salomonsen, 1953:251). The difference in color between the underparts of *griseigularis* and *birgitae* mentioned by Salomonsen seems rather poor. In the very small series of *griseigularis* I have examined, the edgings of the remiges are redder than in *birgitae* in males and washed with dull orange (absent or nearly so in *birgitae)* in the one female. The short and stubby bill (for this species) of *griseigularis* is by far the best character separating that race from *birgitae.* SPECIMENS EXAMINED: *A. m. malacensis*—long series (AMNH). *paraguae*—Palawan, 54. *iris*—Sibutu, 3. *iris* × *wiglesworthi*—Bongao, 2.

cagayanensis—Cagayan Sulu, 1. *bornensis*—North Borneo, 11. *wiglesworthi*—Jolo, 15; Tawi Tawi, 1. *heliolusius*—Basilan, 5; Mindanao, 5. *chlorigaster*—Panay, 1; Cebu, 1; Negros, 1; Tablas, 1; Masbate, 1. *griseigularis*—Samar, 3. *birgitae*—Luzon, 31.

Nectarinia sperata (Linnaeus, 1766)

Few Philippine species have been subjected to as many nomenclatorial rearrangements of their subspecies in recent years as has this sunbird. As of the time of Delacour and Mayr (1946:229), four subspecies were recognized. One, *N. s. henkei* (Meyer, 1884), has a velvety black back; it is found in northern Luzon. The other three have maroon-red backs. The nominate race, which has a scarlet-red breast, is assigned a range from southern Luzon to northern Mindanao, also Palawan. A subspecies *davaoensis* Delacour, 1945, said to differ from *sperata* in "having breast vermilion, suffused with yellow on base of feathers," is attributed to southeastern Mindanao. Finally, a yellow-breasted race (with a touch of vermilion in the center), *N. s. juliae* (Tweeddale, 1877), is assigned to western and southern Mindanao, Basilan, and the Sulu Archipelago.

The first change in this "status quo" was made by Gilliard (1950:500), who described *N. s. thereseae* from five specimens from Lamao, Bataan. However, Salomonsen (1953:255) quickly pointed out that "*thereseae*" represented nothing but intergrades between *henkei* and *sperata* (as Gilliard had already admitted) and had neither the definable range nor the consistent characters required of a named subspecies; four males from Mariveles (only about 10 miles from the type locality of "*thereseae*"), not seen by Gilliard, were inseparable from *sperata*. Salomonsen postulated, undoubtedly correctly, that such specimens as the type of "*thereseae*" could be found in a zone of intergradation wherever *henkei* and *sperata* meet in north-central Luzon. He placed the name *thereseae* in the synonymy of *sperata*, apparently agreeing with Gilliard that it was closer to that race than to *henkei*.

In an earlier paper, Salomonsen (1952:355–356) extended the ranges of red- and yellow-breasted forms on Mindanao, restricting the intermediate form, *davaoensis*, to the City of Davao District and pointed out that it was "no doubt of hybrid origin." He enlarged on this point in his second paper (1953:257) and showed that "*davaoensis*" represents an unstable series of intermediates between the red- and yellow-breasted races and has no discrete range of its own. This has since been verified by additional Mindanao material received by the DMNH.

Salomonsen (1952:355–356) at first thought that there were no color variations among the red-backed, red-breasted populations previously all called *N. s. sperata,* but he described two subspecies based on size. Two pairs from Polillo were larger than his other *sperata* and were described as *manueli;* whereas two pairs from Limot, Davao Province, eastern Mindanao, were small and were described as *minima.* By the time his next paper appeared (1953), Salomonsen had learned that the name *minima* was preoccupied. Instead of simply renaming the subspecies, however, he adjusted his concepts of geographic variation in this species and described as *trochilus* (with a type locality in Agusan Province, eastern Mindanao) the birds from all of the islands from Marinduque to eastern Mindanao, including Palawan and the Calamianes, all formerly included in *sperata.* No size characters were involved this time—*trochilus* was separated from *sperata* on color characters only. Salomonsen continued to regard *manueli* as similar to *sperata* but larger.

The next authors to discuss this species were Ripley and Rabor (1958:72-73). Although they apparently saw no Polillo specimens, they synonymized *manueli* with *sperata.* Further, they justify the synonymizing of *trochilus* with *sperata* by stating that "measurements of birds from Luzon and the Visayan Islands show the great variability of the populations in these regions"—completely overlooking the fact that Salomonsen separated *trochilus* on color, not size!

Rand and Rabor (1960:439) had only one Polillo specimen, but also declined to recognize *manueli,* attributing its slightly larger size to a so-called "small island effect," which also appeared in their specimens from Sibuyan. To dispose of *manueli* before going on to other matters, a long series of Polillo specimens recently received by the AMNH (four of which have been exchanged to CM) shows conclusively that even the alleged larger size cannot be supported, and *manueli* is here considered a synonym of *sperata.*

Rand and Rabor (1960:439) supported the concepts for which Salomonsen used the names *sperata* and *trochilus* but rejected the latter name in favor of *davaoensis,* explaining as follows: "The name *trochilus* Salomonsen, 1953, is used for a subspecies which includes a population which already has a name, *davaoensis* Delacour, 1945. It is unfortunate that *davaoensis* was based on specimens intermediate between a yellow-bellied and a red-bellied race. A line of reasoning which would consider *davaoensis* based on a hybrid and unavailable would be valid only if species were involved, which is not the case. No matter how inappropriate the type locality or the appearance of the type, no matter how unfortunate the name, it is available and must be used." It is difficult to see any justification for this specious reasoning. The population from which the type of *davaoensis* was taken is not "included" in *trochilus*; all recent authors admit that it is an unstable population of intermediates between a red- and yellow-breasted (not "-bellied," as stated by Rand and Rabor) population. If Rand and Rabor reasoned that the name *davaoensis* must be used for the red-breasted race since such birds contribute half of the genes of the birds from Davao City, it may with equal logic and more useful results be claimed that *davaoensis* is a synonym of the earlier name *juliae* (Tweeddale, 1877), the yellow-breasted race, thus disposing of *davaoensis* as a junior name. I prefer to use the unequivocal name *trochilus* Salomonsen, as *davaoensis* cannot incontrovertibly be assigned to either "parental" subspecies.

In the most recent list of the family Nectariniidae, Rand (1967:237–238) has reversed himself and has placed *trochilus* as a synonym, not of *davaoensis*, but of *sperata*. The two variable intermediate populations "*thereseae*" and "*davaoensis*" are given full typographic entries as subspecies, although their status is explained in the range descriptions. The range of "*thereseae*" is given as "Philippine Islands, from Bataan eastward across central Luzon; probably a band of 'hybridization,' perhaps unstable, between red-backed *sperata* and black-backed *henkei*." This is a paraphrase of Salomonsen's statement (1953:255); neither Salomonsen nor Rand gives any indication of having seen specimens from such a "band" except the type series of *thereseae* from Lamao, Bataan. Salomonsen had seen specimens of *henkei* from as far south as Novaliches, Rizal Province, and of *sperata* from as far north as Laguna de Bay (from which there are excellent recent series, not seen by Salomonsen, in the AMNH and CM). This does not leave much room for a "band" (or "zone," as Salomonsen called it). It is probable that interbreeding, leading to specimens of the "*thereseae*" type, may take place at several points; the lack of a *broad* zone of intergradation and the marked differences between *henkei* and *sperata* strongly suggest that the contact between them is probably both secondary and recent. It is quite possible that careful study, especially of behavior, at contact areas may indicate that the apparent lack of introgression can be explained by the fact that *henkei* and *sperata* have developed isolating mechanisms and must be considered as two species, even though these isolating mechanisms may occasionally break down (thus producing the *thereseae* type).

We turn now to the question of the propriety of recognizing more than one red-backed, red-breasted race or combining them all into *sperata* as Rand (1967) has done. I have compared an excellent series of Luzon males with 63 males from 15 islands within the putative range of *trochilus* and find that the color characters described by Salomonsen (1953:256) are readily visible; I can see no reason to synonymize *trochi-*

lus with *sperata.* It is possible that the populations grouped under *trochilus* by Salomonsen will eventually be further divided; duPont (1971:3–4) has already described *N. s. marinduquensis* from Marinduque on the basis of the color of females. At present, then, the following forms can be recognized: *Nectarinia* (*sperata*?) *henkei* (Meyer, 1884), *N. s. sperata* (Linnaeus, 1766), *N. s. trochilus* (Salomonsen, 1953), *N. s. marinduquensis* duPont, 1971, and *N. s. juliae* (Tweeddale, 1877).

Prionochilus olivaceus Tweeddale, 1877

Salomonsen (1960a:20–21) was dubious about the separability of the subspecies *P. o. samarensis* Steere, 1890, described from Samar and Leyte, but he left the question open. He found four specimens from these two islands to be "slightly darker, more brownish, not so ash gray, on the sides of the throat and breast." He saw no specimens from Bohol; when birds from Samar and Leyte differ from those of Mindanao, the Bohol population usually resembles the Samar/Leyte race. Rand and Rabor (1960) had no Bohol specimens, commenting only that the species (listed as nominate *olivaceus)* had been collected on Bohol by McGregor. They had a series from Samar, but they listed these also under *P. o. olivaceus* without mention of the possible validity of *samarensis.*

I, too, have not seen specimens from Bohol and have seen only a single bird from Leyte, but I have seen adequate series from Samar, Mindanao, and Basilan. The type locality of *olivaceus* is Dinagat, a small satellite island whose avifaunal affinities are with neighboring Mindanao, although it is only a short distance from Leyte across the Surigao Strait. I have not seen specimens from Dinagat and must assume they resemble those of Mindanao. The differentiation of *olivaceus* is greatest at the opposite end of the range of that race, on the island of Basilan. However, although Mindanao birds are somewhat variable, they are on the whole nearer the Basilan population than the Samar/Leyte birds. This means that the traditional division between *olivaceus* and *samarensis* can be maintained; the alternative would be to consider *samarensis* a synonym of *olivaceus* and describe the somewhat more strongly differentiated Basilan population under a new name. The first alternative seems preferable.

Collectively, Mindanao and Basilan *olivaceus* differ from *samarensis* in the somewhat purer, less brownish gray of the sides of the throat and breast, as indicated by Salomonsen. In addition, this color (especially in Basilan birds) extends farther caudad on the flanks and does not tend to break up into streaks as in *samarensis.* The presence or absence of a pale loral spot is a variable character, but it is less often present in *samarensis*. Of 12 Samar specimens in the FMNH, only two have a pale loral spot; whereas it is present in three Mindanao and one Basilan *olivaceus* in that museum. It appears to be present, but not always well developed, in all Mindanao and Basilan specimens.

With the understanding that the characters of the subspecies are better developed in birds from Basilan than in those from Mindanao, a case can be made for restricting *olivaceus* to the latter two islands (and satellites) and reviving *samarensis* for the populations of Samar and Leyte. Bohol birds will probably be found to be assignable to *samarensis*.

Dicaeum bicolor **(Bourns and Worcester, 1894)**

Salomonsen's treatment of this species (1960b:24–25) is unsatisfactory in several respects, undoubtedly because of the inadequacy of his material. Although he examined a total of 42 specimens, these came from five islands; and, as the species is strongly sexually dimorphic, his series of a given sex from any one island was small. I have seen well over 100 specimens (including many collected since Salomonsen's paper appeared) and have examined material from two islands (Leyte and Bohol) from which he had seen none.

At present, the subspecies *inexpectatum* (Hartert, 1895) is recognized for the Bicolored Flowerpeckers of all the islands within the species' range except Mindanao, to which nominate *bicolor* is assigned. Islands included in the range of *inexpectatum* by Salomonsen included Luzon, Mindoro, Negros, Samar, Catanduanes, Bohol, and Leyte; he had seen specimens from the first five listed. In the paper cited (1960b) and in the Peters Check-list (Salomonsen, 1967:181) he lists the type locality of *inexpectatum* as Luzon. This is an error. No type locality was specified in the original description (Hartert, 1895) of *inexpectatum*, but specimens were mentioned from Mindoro and from Laguna de Bay, Luzon. In his list of type specimens in the Rothschild Collection, however, Hartert (1920:430) specifies as the type of *inexpectatum* a specimen collected by Everett in "North Mindoro"; this specimen is now in the AMNH, where I have examined it. The type locality of *inexpectatum* should be corrected from "Luzon" to "North Mindoro."

The characters of the two races recognized by Salomonsen need to be adjusted, and his allocation of islands to these two is not correct. In addition, there is a well-marked third race, which may be known as:

Dicaeum bicolor viridissimum **new subspecies**

Type AMNH 698461, adult ♂, collected on Canlaon Volcano, Negros, Philippines, on March 24, 1896, by J. Whitehead.

Diagnosis: Similar to *D. b. inexpectatum* (Hartert), as exemplified by the type and topotypes from Mindoro, but iridescence of upperparts of males is decidedly greenish rather than blue, especially on rump and upper tail-coverts; females less purely gray on underparts, washed with olive-green; posterior upperparts slightly brighter green, this color extending farther anterior, often even to the crown (which is brownish in females of *inexpectatum);* averaging larger.

Range: Island of Negros, Philippines.

Etymology: The name is taken from Latin *viridis,* green, plus *-issimus,* adjectival superlative.

The comparisons above were intentionally limited to Mindoro specimens of *inexpectatum,* as these are not identical with Luzon birds. The latter differ from Mindoro specimens only in size, not color, and are as large as *viridissimum:* wing of ♂—Mindoro, 47–52; Luzon 52.5–54; Negros 52–55. However, measurements were taken on only a portion of the available series, and a larger sample would undoubtedly demonstrate somewhat more overlap between Mindoro and Luzon birds; I do not believe the separation of the latter based on the size difference to be warranted.

Salomonsen (1960b:24) described the gloss of the upperparts of male *D. b. bicolor* as "dark bluish violet" and that of *inexpectatum* as "a duller and more bluish green." His series of *inexpectatum* males was, of course, composite; nine of his specimens were Negros *viridissimum.* Further, he was completely unable to verify Hartert's attribution of delicate gray flanks to *inexpectatum* males, rather than the white of *bicolor.* This, too, is explainable on the basis of the composite nature of Salomonsen's small series. He saw only 5 ♂ 1 ♀ from Mindanao, 2 ♂ 1 ♀ from Samar, and none from Bohol or Leyte. He assumed that Samar birds pertained to *inexpectatum.* In point of fact, the populations of Samar, Leyte, and Bohol cannot be distinguished taxonomically from those of Mindanao and must be called *bicolor.* Males from these four islands *collectively* are indeed whiter on the underparts than males from Mindoro and Luzon—their flanks are little if any grayer than the medial portion of the underparts; whereas in males of *inexpectatum* there is a noticeable contrast. Males from Mindanao are the whitest among *bicolor,* but there is extensive overlap through individual variation with birds from the other islands. Dorsally, males of *bicolor* have slightly more of a purple gloss, as opposed to steel-blue in *inexpectatum.*

Salomonsen did not discuss the color of females of this species. The females of *bicolor* are strikingly different from those of the other two races. They are very much darker green dorsally, with, in good light, a distinct sheen that is found in the other races on the flight feathers only. Ventrally, the females of *bicolor* resemble the greenish females of *viridissimum,* rather than the grayish ones of *inexpectatum.*

Just as the Mindoro and Luzon populations of *inexpectatum* differ in size, so do the Mindanao and Samar/Bohol/Leyte populations of *bicolor.* Wing length of ♂—Samar/Bohol (no Leyte measured) 46–50; Mindanao 49–55.5. Again, overlap would be greater in a larger series; the minor size difference and the faintly grayer underparts of the Samar/Bohol/Leyte population are not sufficient grounds for taxonomic separation.

In summary, then, the color characters of the three subspecies of *Dicaeum bicolor* can be presented in tabular form thus:

	MALES		FEMALES	
	back	*flanks*	*back*	*underparts*
inexpectatum	steel-blue	gray	dull green	grayish
viridissimum	green	gray	bright green	olive-green
bicolor	purplish blue	white	dark glossy green	olive-green

Dicaeum hypoleucum lagunae **Parkes, 1962**

An excellent series of specimens of *Dicaeum hypoleucum* recently received from several localities in Luzon by the DMNH indicates that the separation of *D. h. lagunae* cannot be upheld, and the name must be placed in the synonymy of *D. h. obscurum* Ogilvie-Grant, 1894.

Zosterops meyeni **Bonaparte, 1850**

Species characters in the notoriously difficult genus *Zosterops* are often subtle, and the allocation of isolated, insular populations to one species or another is often difficult. Barring the unexpected discovery of new morphological characters, it appears that many problematical relationships will be solved only when modern techniques of study in the field, especially of vocalizations and other behavior, are applied to *Zosterops.*

A case in point is the common Luzon lowland bird currently known as *Zosterops japonica meyeni.* I have carefully studied all of the races of *Z. japonica* available in the AMNH and am not convinced that *meyeni* is properly considered a member of this species. It differs from the highly variable *Z. japonica* in a number of ways. It is, in general, a smaller bird (although approached by some races of *japonica;* see measurements given by Mees, 1957:97) with a notably smaller bill. Several races of *japonica* are very brown on the flanks; *meyeni* shows at most a faint smoke-brown in this area. The black mark below the white eye-ring that is often so prominent in *japonica* is absent in *meyeni.* No race of *japonica* is as richly yellow above, especially on the head, as *meyeni.* No race of *japonica* examined shows any trace of yellow along the midventral line beyond the yellow of the throat; this is faintly but definitely present in many specimens of *meyeni.* The latter character suggests affinity with *Zosterops montana;* and, in fact, *meyeni* is rather difficult to distinguish from *Z. m. whiteheadi* of the mountains of Luzon. The two species were often confused in the earlier literature, and misidentified specimens may still be found in museums. It may well prove eventually that *meyeni* is actually a lowland representative of the *montana* group and not particularly related to *japonica* at all. For the time being, the state of our knowledge is best reflected by using the name *Zosterops meyeni* and considering it a separate species.

The very large race *batanis* McGregor, 1907, is quite similar in size to some of the medium-sized races of *japonica,* such as *loochooensis,* but bears no resemblance to them in color; *batanis* is also quite different in color and much larger than its closest geographic neighbor within the species *japonica, Z. j. taivaniana* Momiyama, 1927 (which, according to Mees [1957:129], is not separable from *simplex* Swinhoe, 1861, of the Chinese mainland; I have not studied this and simply use here the subspecific names as the specimens are arranged at the AMNH). Although Hachisuka and Udagawa (1951:23) considered *batanis* "much similar" to *taivaniana,* the differences are of a high order for *Zosterops.* These authors synonymize *kikutii* Momiyama, 1927, with *batanis* (Mees [1957:131] concurs, although he did not see specimens), thus extending the range of *batanis* from the Batanes Islands (north of Luzon) north to Botel Tobago and Koshoto islands off southeastern Formosa. On the other hand, Hachisuka and Udagawa describe specimens from these islands as intermediate in color between *taivaniana* and "the typical *batanis.*" Mees cites Kuroda (1932:389) as his authority for synonymizing *kikutii* with *batanis,* but Kuroda gave no discussion, simply listing the synonymy. Like Mees, I have been unable to examine specimens from Botel Tobago, but I consider the identity of *kikutii* an open question in view of the intermediacy claimed by Hachisuka and Udagawa. The gap between *batanis* and *taivaniana* is such that I find it difficult to believe that *kikutii* could bridge it. The Batan race, although so much larger, resembles *meyeni* closely in color (and thus differs from *japonica* subsp.) and for the time being is best called *Zosterops meyeni batanis.*

In characterizing *meyeni,* Mees (1957:134) states: "The yellow forehead and the yellowish upper surface suffice to distinguish this bright subspecies from all other forms with the exception of some specimens of *hainana* as has been fully explained in the discussion of that form." On page 131, we find that the "some specimens of *hainana*" refers to a single specimen supposed to have been collected by J. Whitehead in the Five Finger Mountains of Hainan, which differs radically from six other Hainan specimens seen by Mees and which he could not separate from *meyeni.* As one possible explanation for this specimen, Mees postulated a cline within the island of Hainan that would shift from typical *simplex* to what appears to be typical *meyeni;* such a cline seems exceedingly unlikely. I agree with Mees that only additional specimen material will illuminate the status of the white-eyes of Hainan. I offer, however, an alternative hypothesis that seems to me to be at least as plausible as Mees' dramatic cline, especially since *meyeni,* as Mees himself has pointed out, is a lowland bird. The expedition to the Five Finger Mountains was Whitehead's last: he was ill with fever during much of the time, as were also his collectors—Filipinos who joined him at Manila on the way to Hainan. That Whitehead's Hainan collection reached England at all was something of a miracle (Ogilvie-Grant, 1900), and it is hardly beyond the realm of possibility that one or more specimens from the Manila region got mixed up with the Hainan birds or that labels may have been switched. Only the examination of additional specimens from the Five Finger Mountains will prove whether, in fact, a bright yellow *Zosterops* indistinguishable from Luzon *meyeni* occurs there.

Mees (1969:334–335) has discussed at length the possibility of sexual dimorphism in color in *Zosterops.* Detailed analyses have been made of only the Australian *Z. lateralis,* and authors have obtained conflicting results. Mees concludes by stating that there is as yet no proof of color sexual dimorphism in the Zosteropidae, although he considers it a possibility and invites detailed information. My series of *Z. meyeni* collected in central Luzon in August and September 1956, some of which have been dispersed by exchange, now consists of 2 adult ♂, 5 immature ♂, 4 adult ♀, and 3 immature ♀. I examined personally the skulls and gonads of all specimens. All are either molting or have completed the molt; so the colors of freshly molted, unworn feathers are evident. Examining these for possible color differences, I find the following: males collectively are brighter and yellower green dorsally. The immatures of both sexes are slightly duller above than their respective adults; thus the difference between adult males and immature females is most marked. The color differences are best observed in the brighter, yellower areas of the dorsal plumage, especially the forehead and the rump. Ventrally, throat color corresponds to dorsal color. Adult males have the richest yellow, least greenish or lemon-yellow throats; and, again, they contrast the most with the immature females. In flank color, there is a tendency for males collectively to be buffy, females grayer; but this is less consistent than the differences in the shades of green and yellow, in which there are no discrepancies in the series.

I do not claim, of course, that this one species proves that sexual dimorphism in color exists throughout *Zosterops*. I have also found it, however, in *Z. nigrorum;* even though I did not collect the *nigrorum* specimens myself, the differences are consistent with those I have found in *meyeni*. In the case of *nigrorum* these differences are more important than in *meyeni,* as they account for some statements that have been made in the literature concerning individual and geographic variation in *Z. nigrorum,* as will be discussed later.

Zosterops montana Bonaparte, 1851

There is a debate in the literature, with the opposing viewpoints most recently expressed by Mees (1969:370) and duPont (1971:4), on the number of subspecies of *Zosterops montana* worthy of recognition in the Philippines. I do not wish to discuss this species in detail here (I may be accused of being prejudiced, as duPont [*loc. cit.*] has named the Palawan population after me!), but I will say this much: I have seen a number of large series of recently collected examples of this species, in some cases more and better material of certain populations than was available to some of the revisors who have studied this species in the past. Although there is, as has been claimed by several authors, a certain amount of variation within each series, nevertheless there is no doubt in my mind that more than just the one subspecies *Z. m. montana* can be recognized in the Philippines. How many and what the correct names are to apply to them are questions that await the additional revisionary work called for by Mayr (1967:301, footnote). When this is done, it is to be hoped that the revisor will avail himself of the combined series from all accessible collections, as has not always been done in the past.

Zosterops everetti Tweeddale, 1878

All recent authors (Rand and Rabor, 1960; Mees, 1957; Mayr, 1967) have considered *boholensis* McGregor, 1908, as an endemic Bohol subspecies of *Zosterops everetti,* assigning to *Z. e. basilanica* Steere the populations of Basilan, Mindanao, Samar, and Leyte. I have examined a total of 23 specimens from Bohol and have compared them with the following material: Basilan, 3; Mindanao, 10; Samar, 13; Leyte, 5. In comparison with *basilanica,* the brighter upperparts and paler flanks of *boholensis* are evident; however, the variability in color of *basilanica* alluded to by Mees (1957:148) is easily explained by the fact that birds from Samar and (especially) Leyte belong to *boholensis,* not to *basilanica.* This, of course, conforms to a typical pattern of geographic variation in Philippine birds, with the populations of the three major Visayan islands collectively differing from those of Mindanao and Basilan. A reanalysis of all available specimens from Mindanao might show that the variation within that island referred to by Mees may (as he suggested) be resolved by restricting *basilanica* to Basilan and western Mindanao; the birds of eastern Mindanao may prove to be more closely related to those of Samar, Leyte, and Bohol.

Incidentally, the lectotype of *basilanica* chosen by Mees (1957:148), AMNH 700019, is an extreme individual, with the greatest amount of ventral yellow exhibited by any specimen of any Philippine race I have examined.

The four specimens in CM (one now exchanged to the DMNH) of the extinct *Z. e. everetti* of Cebu indicate that some modifications should be made in some of the subspecific diagnoses given by Mees (1957). His comparisons of *mandibularis* Stresemann (see page 154 of his paper) were made with *basilanica,* but (as hinted on page 146) *mandibularis* is much closer to *everetti* in its characters. These two subspecies exhibit the minimal amount of yellow in the midventral region; and, as indicated by Mees on page 146, both have pale bills. However, the CM material does not confirm Mees' statement that the bill of *mandibularis* is even paler than that of *everetti.* Mees correctly states that the flanks of *mandibularis* are paler than those of *basilanica* (of Basilan and western Mindanao), and in this *everetti* matches *mandibularis* also. The chief differences between *everetti* and *mandibularis* are the presence of a well-marked black line below the white eye-ring in *everetti* and the slightly brighter and richer yellow colors of that race.

Bourns and Worcester had four specimens of their new *Zosterops siquijorensis* (1894:21), as indicated in their original catalogue, which I have examined at the University of Minnesota. All four carry Bourns and Worcester's red type label. On two of these, ♂ no. 3846 and ♀ no. 3848 (now USNM 316189 and 316188, respectively), Bourns and Worcester wrote the word TYPE. Another female in the USNM collection (3847, now USNM 315712) lacks this designation. Deignan (1961: 509) listed the male (USNM 316189) as *the* type specimen of *Z. siquijorensis* and stated, "In addition to this specimen, a female, no. 316188, has also been marked by Bourns and Worcester as 'type,' but it can be considered only a paratype." This statement directly contradicts Deignan's own philosophy on cotypes and lectotypes (1961:vii) and, in this case, is based on his misunderstanding of the Bourns and Worcester type specimens. In presenting descriptions of their new Philippine forms, Bourns and Worcester gave actual descriptions only of the male or males *when there was no sexual dimorphism.* Deignan construed this practice to mean that only a male specimen was eligible to be the "type" of such a form (see his remarks on *Hyloterpe winchelli* and *Hyloterpe major;* Deignan, 1961:471), an interpretation with no justification and certainly not in accordance with the intentions of Bourns and Worcester. On the labels of most (but not all) of their new forms, they wrote the word TYPE on one or more specimens, often a pair, but sometimes more. These designations have never been published except insofar as they are mentioned (usually only in part and sometimes inaccurately) in Deignan's paper. I prefer to follow Deignan's announced (but not practiced) philosophy of considering all of the series as cotypes, accepting designations of lectotypes only when a revisor has clearly shown the need for such a selection.

The fourth cotype of *Zosterops siquijorensis,* referred to by Mees (1969:265) as having been present in the Minnesota Museum of Natural History in 1959, was exchanged by that institution to CM in the latter year; it is now CM 138290. Mees *(loc. cit.)* stated that "if a lectotype has to be selected, it is perhaps preferable to take the Minnesota specimen." I do not follow his logic in this; but, in any case, the specimen in question (no. 3849 of Bourns and Worcester) is the least suitable as a lectotype because it is of unknown sex. However, no necessity for designation of a lectotype for *Zosterops siquijorensis* has been demonstrated, and I regard all four specimens simply as cotypes.

Zosterops nigrorum Tweeddale, 1878

As mentioned in the discussion of *Z. meyeni,* sexual dimorphism in color in this species makes it mandatory to separate out the sexes before any geographic comparisons are made, as some of the small series have lopsided representation of one sex or the other.

Mees (1957:164) could find no differences between the populations from Negros, Panay, and Masbate; he called all *Z. n. nigrorum.* I have found what seems to be geographic variation within *nigrorum,* but it is not correlated with a simple separation by islands. A series of 17 specimens from four localities in southern Negros, including eight near-topotypes of *nigrorum* (type locality Valencia), differs from a series composed of 12 from northern Negros (Canlaon), six from Masbate, and four from Panay. The birds from southern Negros are brighter and richer yellow above and below—that is, less grayish above and less whitish below. The two series, however, are not seasonally comparable. If additional material should support a separation, then the dull northern bird would need a name. In spite of the proximity of Masbate to Sorsogon, southern Luzon, the affinities of Masbate specimens are clearly with those of northern Negros, not with *luzonica.*

The treatment of the Luzon races adopted by Mees (1957) was essentially that of Mayr (*in* Delacour and Mayr, 1945:115), although Mees queried a few of Mayr's statements. The same allocation of ranges within Luzon appears in the Peters Check-list (Mayr, 1967). According to this arrangement, *Z. n. luzonica* Ogilvie-Grant, 1895, occupies only southeasternmost Luzon, in Sorsogon and Albay (misspelled "Albany" by Mees) provinces, and *Z. n. aureiloris* Ogilvie-Grant, 1895, occupies Luzon at least south to Laguna de Bay, as well as Mindoro. The excellent material I have examined indicates that this is an oversimplification of the geographic variation in this species on Luzon and Mindoro.

Mees apparently examined only three specimens of *luzonica;* I have been able to examine only six (Albay, 2; Sorsogon, 4), but I agree that *luzonica* should be limited to southeasternmost Luzon. The area between Albay and Laguna provinces has been inadequately collected; so it is not known how far north and west the characters of *luzonica* can be traced.

The remainder of Luzon is *not* occupied by *aureiloris,* of which the type locality is Lepanto, northern Luzon. The population of central Luzon differs from both *aureiloris* and *luzonica* and is, moreover, not intermediate between the two in some of its characters. I have based this conclusion on the examination of 27 specimens from central Luzon and 26 from northern Luzon. For the population of central Luzon, the name *innominata* Finsch, 1901, can be revived, as Mees (1957:166) has restricted its type locality to Manila. It must be understood that the species does not occur *at* Manila, in the coastal lowlands, where *Z. meyeni* is found; it is, in general, more of a highland bird in Luzon. The nearest thing to a definite lowland record I have seen is Gilliard's statement (1950:501) that his only records from the Bataan Peninsula area were "of a male and female taken in the lowlands on November 29 by a local hunter."

Mees (1957:167) found three cotypes of *Z. innominata* in the BMNH, all in bad condition. One is labeled "Manila" and the other two are simply labeled "Philippines" or "Phil. I." He selected a juvenile as lectotype, on the basis that in spite of its plumage stage and its dirtiness, "it seems to belong to *aureiloris*" and also "it is the only specimen with a collector's name indicated an [*sic*] the label." Unfortunately, the collector whose name is on the label is Cuming; Mees, in making the statement (p. 166, footnote) that "as Cuming lived in Manila . . . it is highly likely that the skins were collected near Manila," showed that he was unaware of the utter unreliability of the localities (when localities are given) in Cuming's collection. For a detailed discussion of the problem, see Parkes, 1961:3–4. However, in view of the poor condition of the cotypes, it is highly unlikely that anyone will ever be able to associate them any more definitely with any population of *Zosterops nigrorum;* so the designation of the type locality for *innominata* made by Mees, "near Manila," can be accepted.

Males of *innominata* are nearest *luzonica* dorsally, although somewhat yellower, but with a distinctly defined yellow area between the crown and the bill as in *aureiloris.* The rump and upper tail-coverts are practically concolorous with the rest of the back, whereas they are brighter and yellower in *aureiloris.* The throat is even brighter and richer yellow than in *aureiloris* (thus not intermediate between the races to the north and to the south) and is richer yellow than the under tail-coverts, whereas in *aureiloris* the underparts are approximately uniform in color from front to back. Mayr (*in* Delacour and Mayr, 1945:115) mentions as a character of *aureiloris* "the reduction of citrine (in favor of yellow) on the sides of the breast and on the flanks." In *innominata* the flanks, and to some extent the breast, are heavily washed with citrine, contrasting quite sharply with the yellow of the midventral area. The yellow line at the forehead is like the throat in color, whereas in *aureiloris* it is deeper yellow than the throat. The facial pattern is like that of *aureiloris,* described and figured by Mees (1957:166–167; fig. p. 162). The females of *innominata* are duller in color than the males; but, when compared with females of the other two Luzon races, they agree with their males in general depth of yellow and contrasting flanks. Specimens examined of *innominata* came from Bataan and Laguna provinces; those of *aureiloris* came from Abra, Cagayan, Ilocos Norte, Isabela, and Mountain provinces.

NOTE: The preceding notes on Luzon races of *Zosterops nigrorum* were made prior to the description of *Z. n. sierramadrensis* by Rand and Rabor (1969:165–166). I examined five specimens from Isabela Province and one from Cagayan Province that should belong to this new race, but at the time I did not note their differences from 20 specimens from northwestern Luzon. In some ways their description of *sierramadrensis* as compared with *aureiloris* is similar to the characters of *innominata;* Rand and Rabor had no specimens from central Luzon. It is obvious that new comparisons between the birds of northeastern, northwestern, and central Luzon birds need to be made to verify the distinctness of *sierramadrensis.* It is also of interest to note that Rand and Rabor have verified the sexual dimorphism in color, at least in the northeastern Luzon population ("females are duller"; 1969:166).

Examination of 12 specimens from five localities on Mindoro shows that the population of *Zosterops nigrorum* on this island cannot be allocated to any of the Luzon races, nor to any other, and is worthy of its own name. These birds may be called:

Zosterops nigrorum mindorensis new subspecies

Type AMNH 790482, adult ♂, collected on the north slope of Mt. Halcon, Mindoro, Philippines, on March 19, 1965, by J. Ramos.

DIAGNOSIS: Richest and deepest yellow of all the subspecies of *Zosterops nigrorum,* both above and below; the yellow neither greenish in tone, nor the brilliant lighter yellow of the larger race *catarmanensis* Rand and Rabor, 1969, of Camiguin South Island; black mark under eye slightly more extensive and white eye-ring slightly broader than in *aureiloris* and *innominata.*

RANGE: Highlands of Mindoro Island, Philippines.

I have seen the same four specimens of *Z. n. meyleri* McGregor, 1907, from Camiguin North Island, as were seen by Mees (1957:168). The variability in color that he mentions is accounted for by the fact that the series consists of one adult male, one adult female, one juvenile male, and one juvenile female. The adults are inseparable in color from *aureiloris,* but *meyleri* may be distinguished by its exceptionally large eye-ring (Mees, 1957:162; figured).

SUMMARY

Information on taxonomy, nomenclature, distribution, and plumages of a number of species of Philippine birds is presented. A partial breakdown by category is given below (with names given alphabetically in each category); these lists do not include all of the species mentioned in the paper.

New subspecies: *Anthreptes malacensis iris, Cisticola juncidis nigrostriata, Coracina morio lecroyae, Coracina morio ripleyi, Dicaeum bicolor viridissimum, Dryocopus javensis esthloterus, Parus semilarvatus snowi, Zosterops nigrorum mindorensis.*

Subspecies upheld or revived: *Centropus melanops banken, Cisticola exilis semirufa, Dicrurus hottentotus samarensis, Microhierax erythrogonys meridionalis, Mulleripicus funebris mayri, Prionochilus olivaceus samarensis, Riparia paludicola tantilla, Zosterops nigrorum innominata.*

Subspecies synonymized: *Butorides striatus carcinophilus, Cyornis herioti enganensis, Dicaeum hypoleucum lagunae, Dryocopus javensis samarensis, Eudynamys scolopacea onikakko, Eudynamys scolopacea paraguenae, Hirundo tahitica mallopega, Phapitreron leucotis albifrons, Rallus torquatus quisumbingi, Rallus torquatus sanfordi, Rhabdornis mysticalis longirostris.*

Partial taxonomic revisions: *Anthreptes malacensis, Coracina striata, Cyornis rufigastra, Nectarinia sperata, Penelopides panini, Phapitreron amethystina, Phylloscopus* sp., *Prionoturus discurus, Tanygnathus lucionensis, Zosterops everetti, Zosterops nigrorum.*

Nomenclatorial notes: *Coracina ostenta, Nectarinia sperata.*

Subspecies made full species: *Cyornis lemprieri, Orthotomus derbianus, Zosterops meyeni,* and possibly *Nectarinia henkei.*

Full species made subspecies: *Oriolus xanthonotus albiloris.*

Distributional notes: *Anthus gustavi, Anthus novaeseelandiae sinensis, Bubo philippensis, Butorides striatus amurensis, Culicicapa ceylonensis, Hirundo rustica saturata, Motacilla flava taivana, Ninox scutulata florensis, Orthotomus derbianus, Pernis apivorus philippensis, Rallus philippensis, Rhipidura cyaniceps, Stachyris striata.*

Notes on plumages: *Coracina striata, Eudynamys scolopacea, Prionoturus discurus, Rallus philippensis, Tanygnathus lucionensis, Zosterops meyeni.*

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